

AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

# JVC

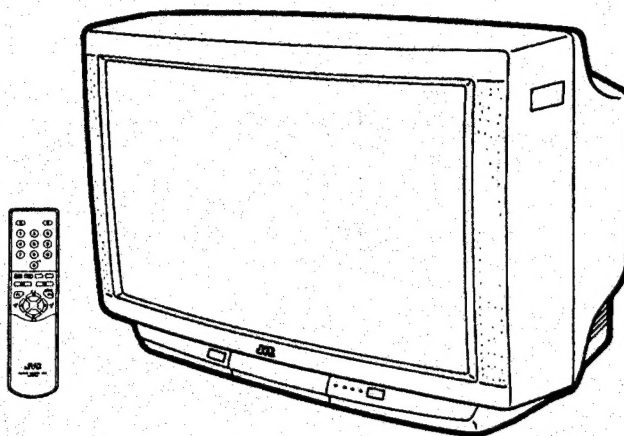
## SERVICE MANUAL

COLOUR TELEVISION

BASIC CHASSIS

JF

**AV-28WT4EK**  
**AV-28WT4EKS**  
**AV-28WT4EN**  
**AV-28WT4ENS**



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# SPECIFICATIONS

Item	Content	
	AV-28WT4EK / AV-28WT4EKS	AV-28WT4EN / AV-28WT4ENS
Dimensions ( W × H × D )	716mm × 489mm × 496mm	
Mass	34.8kg	
TV RF System	CCIR ( I )	CCIR ( B/G )
Colour System	PAL / NTSC ( Only in EXT mode )	PAL / SECAM / NTSC ( Only in EXT mode )
Stereo System	NICAM	A2/NICAM
Teletext System	Fastext ( United Kingdom system ) WST ( Standard system )	Fastext ( United Kingdom system ) TOP ( German system ) WST ( Standard system )
Receiving Frequency	VHF UHF	47MHz ~ 470MHz 470MHz ~ 862MHz
Intermediate Frequency	VIF Carrier SIF Carrier	39.5MHz ( I ) 33.5MHz ( 6.0MHz )
Colour Sub Carrier Freq.	PAL SECAM NTSC	4.43MHz 4.40625MHz / 4.25MHz 3.58MHz / 4.43MHz
Power Input	AC 220V ~ 240V, 50Hz	
Power Consumption	140W ( Max ) / 110W ( Avg ), 110W/h ( ITALY )	
Picture Tube	Visible size : 66cm, Measured diagonally	
High Voltage	31.0Kv +1kV -1.5kV ( at zero beam current )	
Speaker	φ 10cm round ( 8 Ω ) × 2	
Audio Output	5W + 5W	
EXT-1/EXT-2(Input/Output)	21-pin Euro connector( SCART socket )	
EXT3 (Input)	1Vp-p 75 Ω ( RCA pin jack ) 500mVrms( -4dBs ), High Impedance ( RCA pin jack ) Y : 1Vp-p POSITIVE ( Negative sync Provided, when terminated with 75 Ω ) C : 0.286Vp-p ( Burst signal, when terminated with 75 Ω )	
Aerial Input Term.	75 Ω unbalanced, Coaxial	
Headphone jack	Stereo mini jack ( φ 3.5mm )	
Remote Control Unit	RM-C794 ( AAA / R03 dry battery × 2 )	RM-C795 ( AAA / R03 dry battery × 2 )

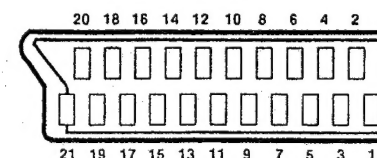
Design & specifications are subject to change without notice.

## ■ 21-pin Euro connector (SCART socket) : EXT-1 / EXT-2

(P-P= Peak to Peak, S-W= Sync tip to white peak, B-W= Blanking to white peak)

Pin No.	Signal Designation	Matching Value	EXT-1	EXT-2
1	AUDIO R output	500mVrms(Nominal), Low impedance	○ (TV OUT)	○ (TV/LINE OUT)
2	AUDIO R input	500mVrms(Nominal), High impedance	○	○
3	AUDIO L output	500mVrms(Nominal), Low impedance	○ (TV OUT)	○ (TV/LINE OUT)
4	AUDIO GND		○	○
5	GND (B)		○	○
6	AUDIO L input	500mVrms(Nominal), High impedance	○	○
7	B input	700mV <sub>B-W</sub> , 75 Ω	○	NC
8	FUNCTION SW (SLOW SW)	Low : 0-3V, High : 8-12V, High impedance	○	NC
9	GND (G)		○	○
10	SCL3		NC	○
11	G input	700mV <sub>B-W</sub> , 75 Ω	○	NC
12	SDA3		NC	○
13	GND (R)		○	○
14	GND (Y <sub>S</sub> )		○	NC
15	R / C input	R : 700mV <sub>B-W</sub> , 75 Ω C : 300mV <sub>P-P</sub> , 75 Ω	○ (R/C)	○ (only C)
16	Y <sub>S</sub> input	Low : 0 - 0.4, High : 1 - 3V, 75 Ω	○	NC
17	GND(VIDEO output)		○	○
18	GND(VIDEO input)		○	○
19	VIDEO output	1V <sub>P-P</sub> (Negative going sync), 75 Ω	○ (TV)	○ (TV/LINE OUT)
20	VIDEO / Y input	1V <sub>P-P</sub> (Negative going sync), 75 Ω	○	○
21	COMMON GND		○	○

[Pin assignment]



# SAFETY PRECAUTIONS AV-28WT4EK / AV-28WT4EKS

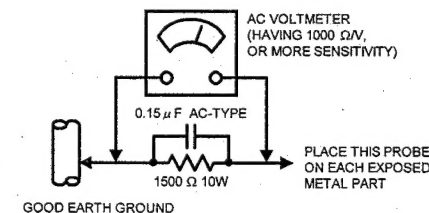
1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessary be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may cause shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubing's, barriers and the like to be separated from live parts, high temperature parts, moving parts and / or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

## WARNING

1. The equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

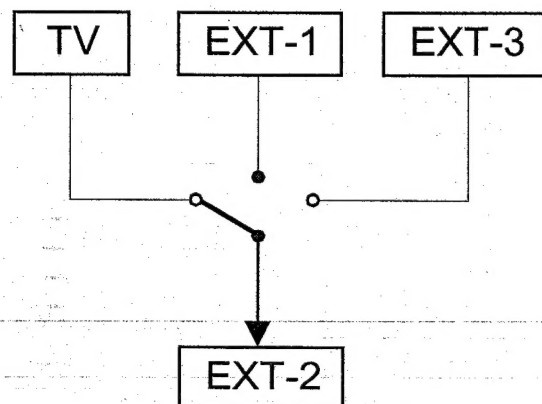
# SAFETY PRECAUTIONS AV-28WT4EN / AV-28WT4ENS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (Δ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**  
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (L) side GND, the ISOLATED(NEUTRAL) : (Δ) side GND and EARTH : (⊕) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.  
If above note will not be kept, a fuse or any parts will be broken.
5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.
9. **Isolation Check (Safety for Electrical Shock Hazard)**  
After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.  
(1) **Dielectric Strength Test**  
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.  
(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)  
This method of test requires a test equipment not generally found in the service trade.  
(2) **Leakage Current Check**  
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).  
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).  
● **Alternate Check Method**  
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).  
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



## FEATURES

- By preference, users can select the picture size from REGULAR, PANORAMIC, FULL, 14:9 ZOOM, 16:9 ZOOM, 16:9 ZOOM SUB TITLE modes. When the TV unit received WSS picture signal, the picture can be changed to 16:9 ZOOM mode automatically.
- The TELETEXT SYSTEM has a built-in FASTEXT, TOP(Only AV-28WT4EN / AV-28WT4ENS) and WST system.
- Because this TV unit corresponds to multiplex broadcast, users can enjoy music programs and sporting events with live realism. In addition, BILINGUAL programs can be heard in their original language.
- Built-in ECO (ECONOMY, ECOLOGY) MODE.  
In accordance with the brightness in a room, the brightness and/or contrast of the picture can be adjusted automatically to make the optimum picture which is easy on the eye.
- Users can make VCR dubbing of picture and sound by controlling the AV selector to select an optional source at the EXT-2 output shown in figure.



## MAIN DIFFERENCE PARTS LIST

Model Name Part Name	AV-28WT4EK	AV-28WT4EKS	AV-28WT4EN	AV-28WT4ENS
MAIN PWB	SJF-1923A-U2	←	SJF-1023A-U2	←
IF MODULE PWB	SJF0F921A-U2	←	SJF0F021A-U2	←
POWER CORD	AEEMP003-185A	←	AEEMP001-185	←
FRONT CABINET ASSY	CM12677-B0U-E	CM12677-B0V-E	CM12677-B0W-E	CM12677-B0X-E
DOOR (SERVICE)	CM22898-015-E	CM22898-017-E	CM22898-015-E	CM22898-017-E
SPEAKER NET (× 2)	CM36226-C0A-H	CM36226-00B-H	CM36226-C0A-H	CM36226-00B-H
JVC MARK	CM48125-001	CM48125-004	CM48125-001	CM48125-004
POWER KNOB (SERVICE)	CM36225-010-E	CM36225-011-E	CM36225-010-E	CM36225-011-E
RATING LABEL	LC20091-005A-U	LC20091-006A-U	LC20092-011A-U LC20093-011A-U	LC20092-012A-U LC20093-012A-U
INST BOOK	LCT0408-001A-U	←	LCT0407-001A-U LCT0408-001A-U	←
EURO LABEL	AEM1039-033-E	AEM1039-034-E	AEM1039-035-E	AEM1039-036-E
REMOCON UNIT	RM-C794-1E	←	RM-C795-1E	←

# SPECIFIC SERVICE INSTRUCTIONS

## DISASSEMBLY PROCEDURE

### REMOVING THE REAR COVER

1. Unplug the power cord.
2. Remove the 13 screws marked "A" as shown in the Fig. 1.
3. Withdraw the rear cover toward you.

### REMOVING THE CHASSIS

- After removing the rear cover.
1. Remove the screw marked "B" on the S/VIDEO terminal of FRONT CABINET as shown in the Fig. 1.
  2. Slightly raise the both sides of the chassis by hand and remove the two claws under the both sides of the chassis from the front cabinet.
  3. Withdraw the chassis backward.  
(If necessary, take off the wire clamp, connectors etc.)

### REMOVING THE AV TERMINAL BOARD

- After removing the rear cover.
1. Remove the 3 screws marked "C" as shown in the Fig. 1.
  2. While raising the claw marked "D", remove the top of the AV TERMINAL BOARD slightly in the direction of arrow "E" as shown in Fig. 2.

### REMOVING THE SPEAKER BOX

- After removing the rear cover.
1. Remove the 2 screws marked "F" as shown in Fig. 1.
  2. Follow the same steps when removing the other hand speaker box.

**NOTE:** When removing the screws marked "F" of the speaker box, remove the lower side screw first, and then remove the upper screw.

### CHECKING THE PW BOARD

To check the back side of the PW Board.

- 1) Pull out the chassis. (Refer to REMOVING THE CHASSIS).
- 2) Erect the chassis vertically so that you can easily check the back side of the PW Board.

#### [CAUTION]

- When erecting the chassis, be careful so that there will be no contacting with other PW Board.
- Before turning on power, make sure that the wire connector is properly connected.
- When conducting a check with power supplied, be sure to confirm that the CRT EARTH WIRE (BRAIDED ASS'Y) is connected to the CRT SOCKET PW board.

### WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together.  
Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

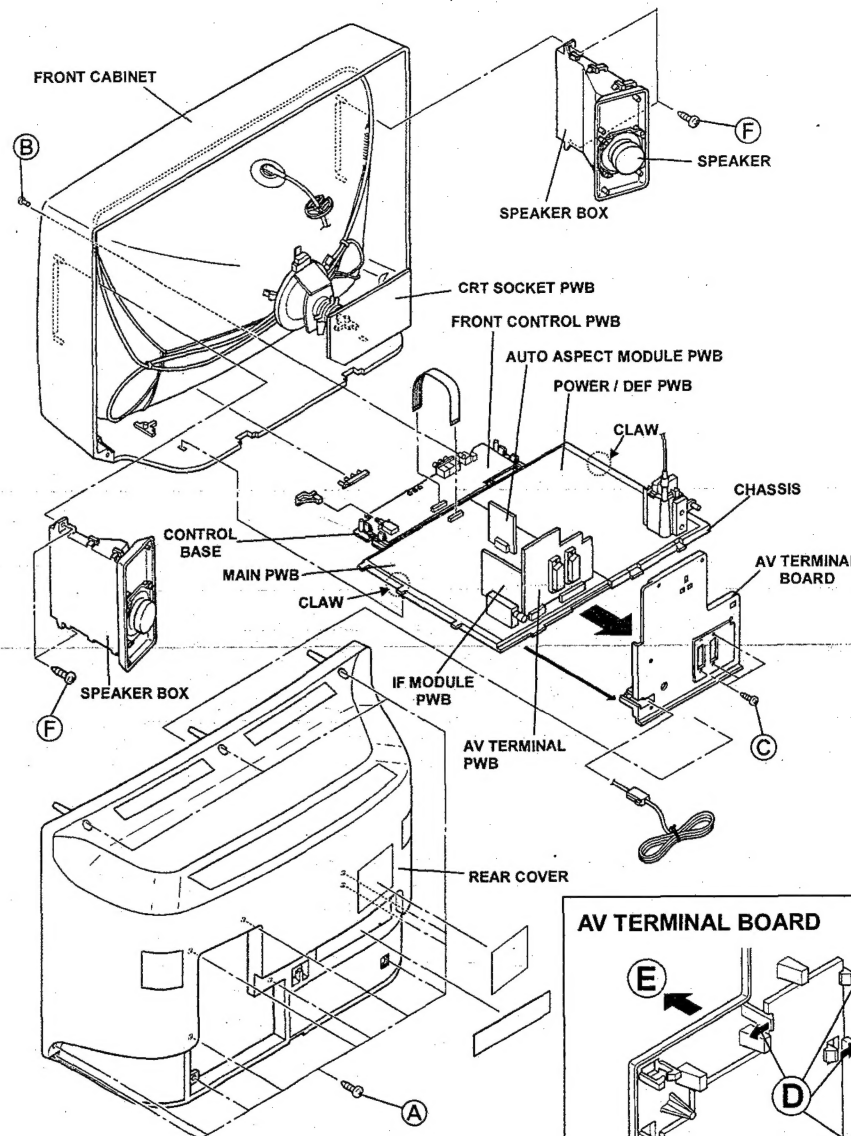


Fig. 1

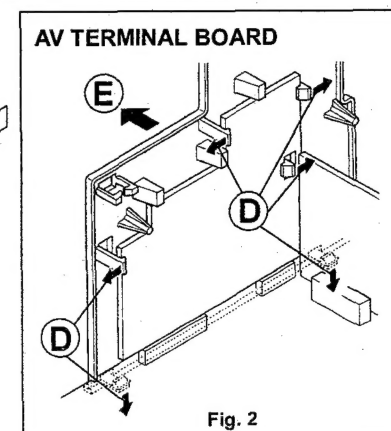


Fig. 2

AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

## REMOVING THE CRT

- Replacement of the CRT should be performed by 2 or more persons.
- After removing the cover, chassis etc.,
- Putting the CRT change table on soft cloth, the CRT change table should also be covered with such soft cloth (shown in Fig.3).
- While keeping the surface of CRT down, mount the TV set on the CRT change table balanced will as shown in Fig.4.
- Remove 4 screws marked by arrows with a box type screw driver as shown in Fig.4.
- Since the cabinet will drop when screws have been removed, be sure to support the cabinet with hands.
- After 4 screws have been removed, put the cabinet slowly on cloth (At this time, be carefully so as not to damage the front surface of the cabinet) shown in Fig.5.
- The CRT should be assembled according to the opposite sequence of its dismantling steps.
- The CRT change table should preferably be smaller than the CRT surface, and its height be about 35cm.

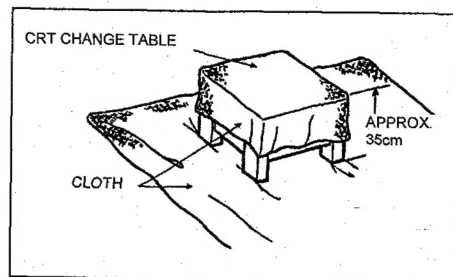


Fig. 3

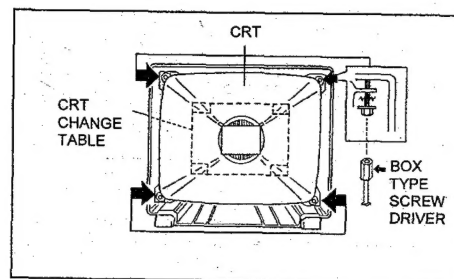


Fig. 4

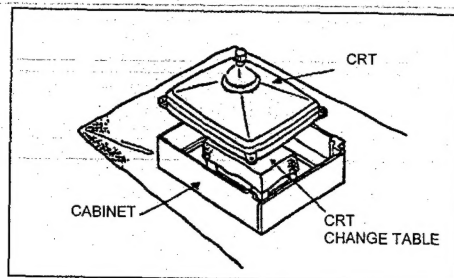


Fig. 5

## COATING OF SILICON GREASE FOR ELECTRICAL INSULATION ON THE CRT ANODE CAP SECTION.

- Subsequent to replacement of the CRT and HV transformer or repair of the anode cap, etc. by dismantling them, be sure to coat silicon grease for electrical insulation as shown in Fig.6.
- Wipe around the anode button with clean and dry cloth. (Fig.6)
- Coat silicon grease on the section around the anode button. At this time, take care so that any silicon greases dose not stick to the anode button. (Fig.7)

★ Silicon grease product No. KS - 650N

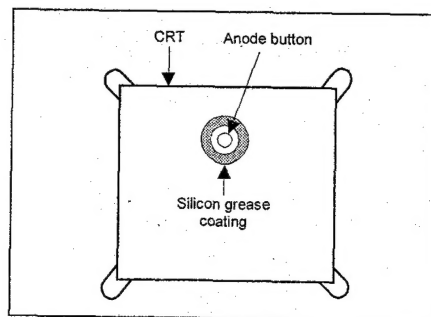


Fig. 6

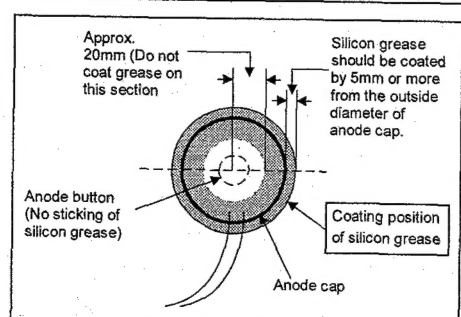


Fig. 7

## REPLACEMENT OF MEMORY ICs

### 1. Memory ICs

This TV use memory ICs. In the memory ICs, there are memorized data for correctly operating the video and deflection circuits. When replacing memory ICs, be sure to use ICs written with the initial values of data.

### 2. Procedure for replacing memory ICs

PROCEDURE	
(1) Power off	Switch the power off and unplug the power cord from the outlet.
(2) Replace ICs.	Be sure to use memory ICs written with the initial data values.
(3) Power on	Plug the power cord into the outlet and switch the power on.
(4) Check and set SYSTEM CONSTANT SET:	<ol style="list-style-type: none"> <li>Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously.</li> <li>The SERVICE MENU screen of Fig. 1 will be displayed.</li> <li>While the SERVICE MENU is displayed, press the INFORMATION key and MUTING key simultaneously, and the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed.</li> <li>Check the setting values of the SYSTEM CONSTANT SET of Table 1. If the value is different, select the setting item with the FUNCTION UP/DOWN key, and set the correct value with the FUNCTION +/- key.</li> <li>Press the MENU key to memorize the setting value.</li> <li>Press the INFORMATION key twice, and return to the normal screen.</li> </ol>
(5) Setting of receive channels	Set the receive channel. For setting, refer to the OPERATING INSTRUCTIONS.
(6) User settings	Check the user setting values of Table 2, and if setting value is different, set the correct value. For setting, refer to the OPERATING INSTRUCTIONS.
(7) Setting of SERVICE MENU	Verify the setting items of the SERVICE MENU of Table 3, and reset where necessary. For setting, refer to the SERVICE ADJUSTMENTS.

SERVICE MENU	
1. IF	2. VIC
3. AUDIO	4. DEF
5. VSM PRESET	6. VPS
7. AUTO PROGRAM (OFF)	
8. MAX VOLUME	
1-8: SELECT 0: EXIT	

Fig.1

SYSTEM CONSTANT SET	
MODEL: 24/28WT	(V: ****)
COUNTRY	: **
INCH	: 28
S-INPUT	: YES
+ OK: STORE 0: EXIT	
JVC JF WIDE V**	
***** ~ *****	

Fig.2

### NAME OF REMOTE CONTROL KEY

Names of key	key
INFORMATION	ⓘ
MUTING	⊗
MENU	OK
FUNCTION UP/DOWN	⬆ ⬇
FUNCTION +/-	⬅ ➡

SETTING VALUES OF SYSTEM CONSTANT SET (TABLE 1)

Setting item	Setting content	Setting value	
		AV-28WT4EK/AV-28WT4EKS	AV-28WT4EN/AV-28WT4ENS
COUNTRY	→ EN → EK ←	EK	EN
INCH	→ 28 → 32 → 24 ←	28	←
S-INPUT	→ YES → NO ←	YES	←

USER SETTING VALUES (TABLE 2)

Setting item	Setting value	Setting item	Setting value
PICTURE SETTING		EXT SOURCE	
TINT ECO MODE CLOUR SYSTEM 4:3 AUTO ASPECT	COOL OFF TV : Depend on Preset Channel EXT : AUTO PANORAMIC	EXT SETTING DUBBING	BLANK EXT-1 → EXT-2
SOUND SETTING		FEATURES	
STEREO / I II BASS TREBLE BALANCE HYPER SOUND	Depend on Preset Channel CENTER CENTER CENTER OFF	SLEEP TIMER BLUE BACK CHILD LOCK	OFF ON ID No.0000 ALL CHANNEL OFF
		INSTALL	
		LANGUAGE	ENGLISH

SERVICE MENU SETING ITEMS (TABLE 3)

Setting item	Setting value	Setting item	Setting value
1. IF	1. VCO 2. DELAY POINT	4. DEF.	1. TRAPEZ 2. V-SHIFT 3. V-SIZE 4. H-CENT 5. H-SIZE 6. EW-PIN 7. V-S. CR 8. V-LIN 9. V-EDGE 10. EW-COR 11. ABL POINT 12. ABL GAIN
2. V / C	1. CUT OFF 2. DRIVE 3. BRIGHT 4. CONT. 5. COLOUR 6. TINT (Only NTSC) 7. BLACK OFFSET (Only SECAM) 8. SHARP 9. TEXT (RGB) CONT	5. VSM PRESET COOL NORMAL WARM	1. BRIGHT 2. CONT. 3. COLOUR 4. SHARP 5. TINT 6. R DRIVE 7. B DRIVE 8. BASS 9. TREBLE
3. AUDIO (Do not adjust)	1. CONC LIMIT 2. A2 ID THR	6. VPS (Do not adjust)	VPS PDC
		7. AUTO PROGRAM (Do not adjust)	ON / OFF
		8. MAX VOLUME	LEVEL

## SERVICE ADJUSTMENTS

### BEFORE STARTING SERVICE ADJUSTMENT

- There are 2 ways of adjusting this TV: One is with the REMOTE CONTROL UNIT and the other is the conventional method using adjustment parts and components.
- The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- Make sure that connection is correctly made to AC power source.
- Turn on the power of the TV and measuring instrument for warming up for at least 30 minutes before starting adjustment.
- If the receive or input signal is not specified, use the most appropriate signal for adjustment.
- Never touch parts (such as variable resistors, transformers and condensers) not shown in the adjustment items of this service adjustment.
- Preparation for adjustment (presetting):  
Unless otherwise specified in the adjustment items, preset the following functions with the REMOTE CONTROL UNIT:

PICTURE MODE (VSM)	COOL
SLEEP TIMER	OFF
BALANCE	CENTER
ECO	OFF
ZOOM	REGULAR
HYDER SOUND	OFF

### MEASURING INSTRUMENT AND FIXTURES

- DC voltmeter (or digital voltmeter)
- Oscilloscope
- Signal generator (Pattern generator) [PAL / SECAM (Only AV-28WT4EN / ENS) / NTSC]
- Remote control unit

### ADJUSTMENT ITEMS

- B1 power supply check.
- Adjustment of FOCUS.
- IF circuit adjustment.
- VSM preset adjust setting.
- VIDEO / CHROMA circuit adjustment.
- DEFLECTION circuit adjustment.
- H.BLANKING adjustment.
- AUDIO circuit adjustment. (Do not adjust)
- SETTING OF MAX VOLUME.

## ADJUSTMENT LOCATIONS

## BASIC OPERATION SERVICE MENU

### 1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

### 2. SERVICE MENU ITEMS

With the SERVICE MENU, various settings (adjustments) can be made, and they are broadly classified in the following items of settings (adjustments):

- (1) **1. IF** ..... This mode adjusts the setting values of the IF circuit.
- (2) **2. V/C** ..... This mode adjusts the setting values of the VIDEO / CHROMA circuit.
- (3) **3. AUDIO** ..... This mode adjusts the setting values of the multiplicity SOUND circuit.
- (4) **4. DEF** ..... This mode adjusts the setting values of the DEFLECTION circuit for each aspect mode given below.
 

REGULAR	(50/60Hz)
PANORAMIC	(50/60Hz)
14:9 ZOOM	(50/60Hz)
16:9 ZOOM	(50/60Hz)
16:9 ZOOM SUB TITLE	(50/60Hz)
FULL	(50/60Hz)
- (5) **5. VSM PRSET** ..... This mode adjusts the initial setting values of COOL, NOMAL and WARM.  
(VSM : Video Status Memory)
- (6) **6. VPS** ..... This mode shows the monitor of the VPS and PDC. *(Do not adjust)*.  
(VPS : Video Program System, PDC : Program Delivery Code)
- (7) **7. AUTO PROGRAM** ..... By turning the power switch on, you can get the state of AUTO PROGRAM. *(Do not adjust)*
- (8) **8. MAX VOLUME** ..... This mode adjusts the MAX VOLUME. *(Do not adjust under normal condition)*

### 3. BASIC OPERATION OF SERVICE MENU

#### (1) How to enter SERVICE MENU

Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously, and the SERVICE MENU screen of Fig. 1 will be displayed.

#### SERVICE MENU

- SERVICE MENU**
1. IF
  2. V/C
  3. AUDIO
  4. DEF
  5. VSM PRESET
  6. VPS
  7. AUTO PROGRAM (OFF)
  8. MAX VOLUME
- 1-8 : SELECT **1** : EXIT

Fig.1

#### (2) Selection of SUB MENU SCREEN

Press one of keys 1~8 of the REMOTE CONTROL UNIT and select the SUB MENU SCREEN (See Fig. 3), form the SERVICE MENU.

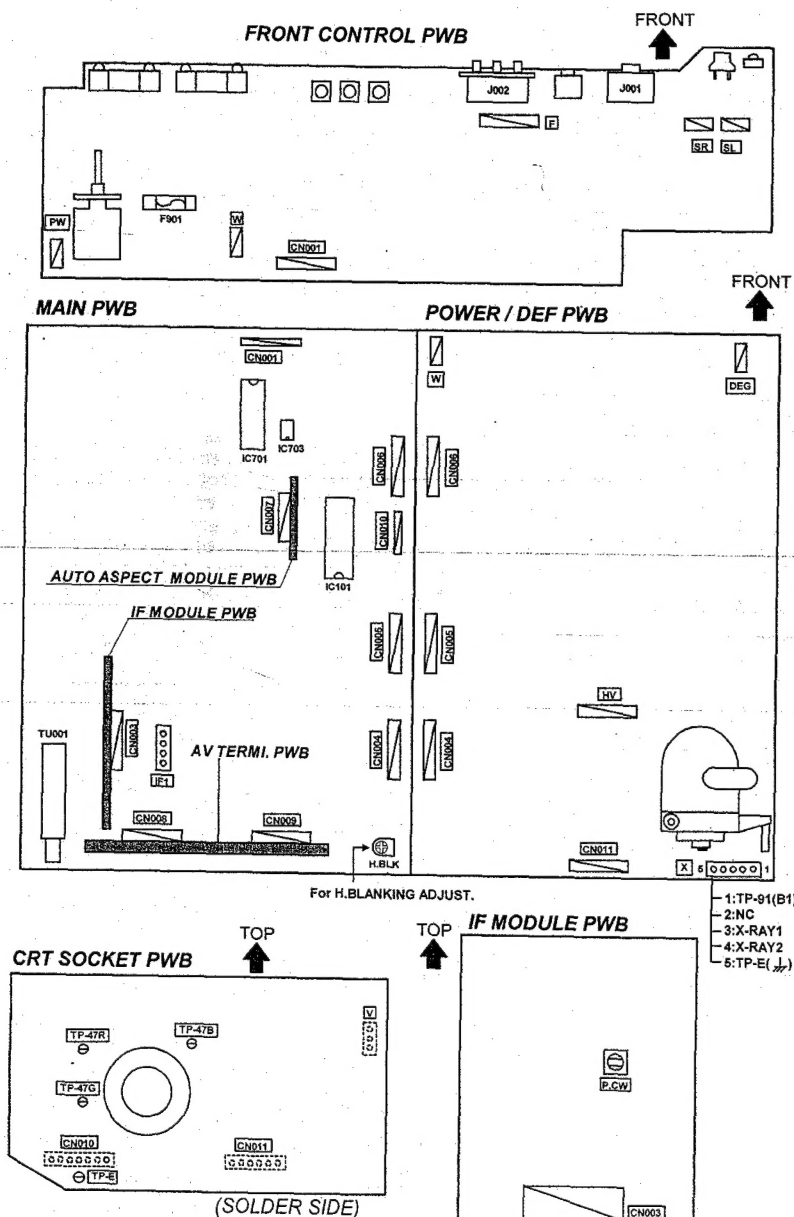
SERVICE MENU → SUB MENU

1. IF
2. V / C
3. AUDIO
4. DEF.
5. VSM PRESET
6. VPS
7. AUTO PROGRAM
8. MAX VOLUME

#### NEME OF REMOTE CONTROL KEY

Names of key	key
INFORMATION	
MUTING	
MENU	
FUNCTION UP/DOWN	
FUNCTION +/-	

Fig.2



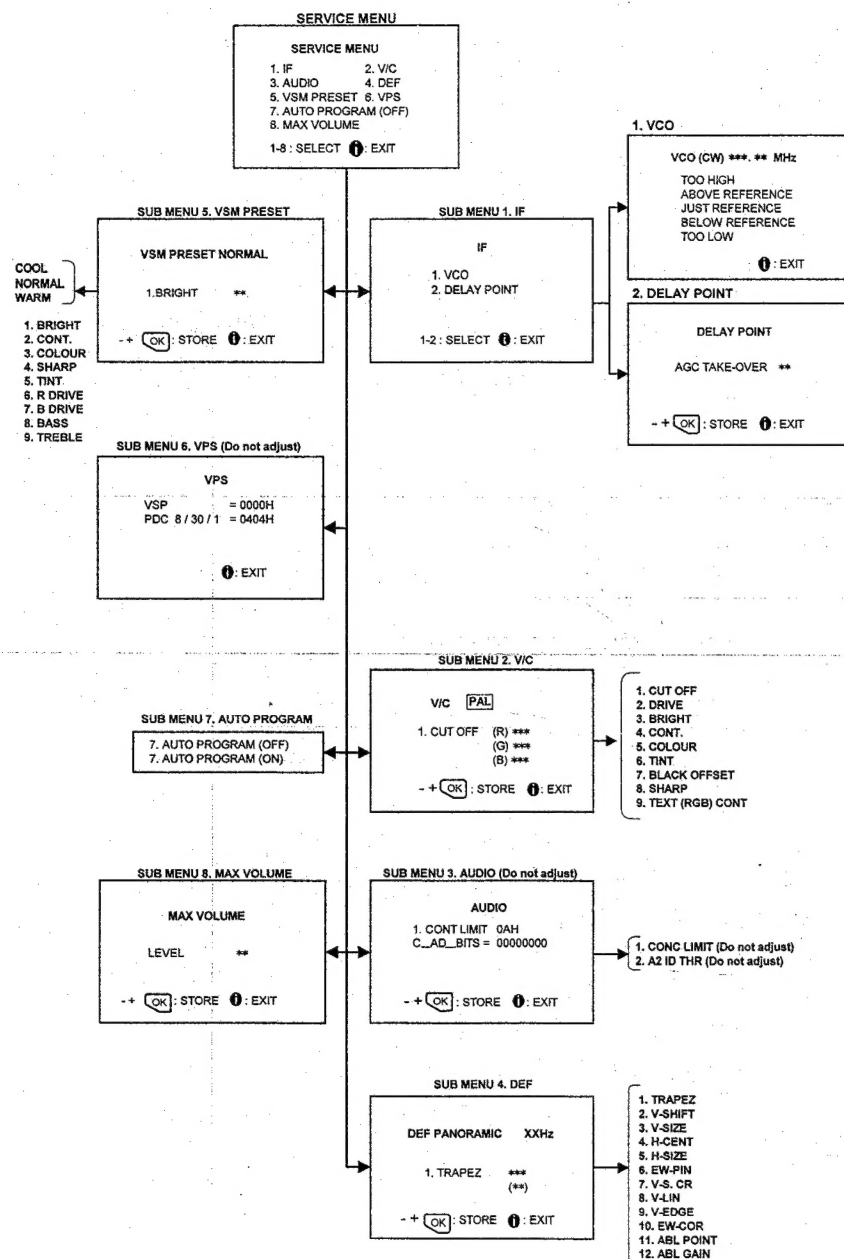


Fig. 3 SUB MENU SCREEN

### (3) Method of Setting

#### 1) Method of Setting 1.IF

[1. VCO]

- ① 1 Key ..... Select 1.IF.
- ② 1 Key ..... Select 1.VCO
- ③ The VCO (CW) screen will be displayed in yellow when the AFC voltage is at a certain level and in blue when it is at other levels.
- ④ INFORMATION Key ..... As you press this twice, you will return to the **SERVICE MENU**.

#### [2. DELAY POINT]

- ① 1 Key ..... Select 1.IF.
- ② 2 Key ..... Select 2.DELAY POINT.
- ③ FUNCTION +/- ..... Set (adjust) the setting values of the setting items.
- ④ MENU Key ..... Memorize the set value.  
(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF keys - if you do, the values will not be stored in memory.)
- ⑤ INFORMATION Key ..... When this is pressed twice, you will return to the **SERVICE MENU**.

### 2) Method of setting 2.V/C, 3.AUDIO, 4.DEF and 5.VSM PRESET.

- ① 2~5 Key ..... Select one from 2. V/C, 3. AUDIO, 4. DEF and 5. VSM PRESET.
- ② FUNCTION UP/DOWN Key ..... Select setting items.
- ③ FUNCTION +/- ..... Set (adjust) the setting values of the setting items.  
(Use the number keys of the REMOTE CONTROL UNIT for setting of WHITE BALANCE. For the setting, refer to each item concerned.)
- ④ MENU Key ..... Memorize the setting value.  
(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF key - if you do, the values will not be stored in memory.)
- ⑤ INFORMATION Key ..... Return to the **SERVICE MENU** screen.

### 3) Method of setting 6.VPS and 7.AUTO PROGRAM.

- 6.VPS ..... This mode displayed monitor of VPS systems. (Do not adjust)
- 7.AUTO PROGRAM ..... When the MAIN POWER is turned on with the state of AUTO PROGRAM ON, you get a mode that initializes every existing set value including language selection. Because this mode is set at the factory upon completion of the adjustment, you need not to use it for service.

### 4) Method of setting 8.MAX VOLUME (Do not adjust under normal condition)

- ① 8 Key ..... Select 8. MAX VOLUME.
- ② FUNCTION +/- Key ..... Set (adjust) the setting values of the setting items.
- ③ MENU Key ..... Memorize the setting value.
- ④ INFORMATION Key ..... Return to the **SERVICE MENU** screen.

### (4) Release of SERVICE MENU

- 1) After completing the setting, return to the **SERVICE MENU**, then again press the INFORMATION key.

## ADJUSTMENTS

### B1 POWER SUPPLY CHECK

Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 Power Supply	Signal Generator  DC voltmeter	TP-91(B1) TP-E(↓) [X connector on MAIN PWB]		<ol style="list-style-type: none"> <li>1. Receive a whole black signal.</li> <li>2. Connect a DC voltmeter to TP-91(B1) and TP-E (↓).</li> <li>3. Make sure that the voltage is <math>DC141.5 \pm 2.0V</math>.</li> </ol>

### FOCUS ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of FOCUS	Signal generator		FOCUS VR [In HVT]	<ol style="list-style-type: none"> <li>1. Receive a cross-hatch signal.</li> <li>2. While watching the screen, adjust the FOCUS VR to make the vertical and horizontal lines as fine and sharp as possible.</li> <li>3. Make sure that when the screen is darkened, the lines remain in good focus.</li> </ol>

### IF CIRCUIT ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description																											
Adjustment of VCO	Remote control unit		P. CW TRANSF. [On IF MODULE PWB]	<ul style="list-style-type: none"><li>Under normal conditions, no adjustment is required.</li></ul> <ol style="list-style-type: none"><li>1. Select 1.IF from the SERVICE MENU.</li><li>2. Press 1 key and select 1.VCO.</li><li>3. Select a receivable broadcast channel with the CHANNEL key.</li><li>4. Turn the core of P. CW TRANSF. until the colour of the characters TOO HIGH displayed on the screen changes from blue to <b>Yellow</b>. (Step 1)</li><li>5. Turn the core of P. CW TRANSF. until the colour of the characters TOO LOW changes from blue to <b>Yellow</b>. (Step 2)</li><li>6. Then slowly turn back the core of P. CW TRANSF. until the colour of the characters JUST REFERENCE changes from blue to <b>Yellow</b>. (Step 3)</li><li>7. Press the INFORMATION key three times to return to normal screen.</li><li>8. Perform CHANNEL PRESET again, and make sure that each broadcast is being received properly.</li></ol>																											
<div><div><div>VCO(OV) ***. ** MHz TOO HIGH ABOVE REFERENCE JUST REFERENCE BELOW REFERENCE TOO LOW <b>i</b> : EXIT</div><div><div>iv</div><div>YELLOW</div></div></div></div> <table><tr><th rowspan="2">Screen display</th><th colspan="3">Step</th></tr><tr><th>1</th><th>2</th><th>3</th></tr><tr><td>TOO HIGH</td><td>Yellow</td><td>Blue</td><td>Blue</td></tr><tr><td>ABOVE REFERENCE</td><td>Blue</td><td>Blue</td><td>Blue</td></tr><tr><td>JUST REFERENCE</td><td>Blue</td><td>Blue</td><td>Yellow</td></tr><tr><td>BELOW REFERENCE</td><td>Blue</td><td>Blue</td><td>Blue</td></tr><tr><td>TOO LOW</td><td>Blue</td><td>Yellow</td><td>Blue</td></tr></table>					Screen display	Step			1	2	3	TOO HIGH	Yellow	Blue	Blue	ABOVE REFERENCE	Blue	Blue	Blue	JUST REFERENCE	Blue	Blue	Yellow	BELOW REFERENCE	Blue	Blue	Blue	TOO LOW	Blue	Yellow	Blue
Screen display	Step																														
	1	2	3																												
TOO HIGH	Yellow	Blue	Blue																												
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JUST REFERENCE	Blue	Blue	Yellow																												
BELOW REFERENCE	Blue	Blue	Blue																												
TOO LOW	Blue	Yellow	Blue																												
Adjustment of DELAY POINT	Remote control unit		DELAY POINT (AGC TAKE-OVER)	<ol style="list-style-type: none"><li>1. Receive a black and white signal (colour off).</li><li>2. Select 1.IF from the SERVICE MENU.</li><li>3. Select 2.DELAY POINT by pressing the 2 key on the remote control.</li><li>4. Adjust the FUNCTION - or + key until video noise disappears.</li><li>5. Press the MENU key and memorize the set value.</li><li>6. Turn to other channels and make sure that there are no irregularities.</li></ol>																											
<table><tr><th>Setting item (Adjustment item)</th><th>Variable range</th><th>Initial setting value</th></tr><tr><td>DELAY POINT (AGC TAKE-OVER)</td><td>0~63</td><td>30</td></tr></table>					Setting item (Adjustment item)	Variable range	Initial setting value	DELAY POINT (AGC TAKE-OVER)	0~63	30																					
Setting item (Adjustment item)	Variable range	Initial setting value																													
DELAY POINT (AGC TAKE-OVER)	0~63	30																													

# VSM PRESET SETTING

Item	Measuring instrument	Test point	Adjustment part	Description
Setting of VSM PRESET	Remote control unit		1. BRIGHT 2. CONT. 3. COLOUR 4. SHARP 5. TINT 6. R DRIVE 7. B DRIVE 8. BASS 9. TREBLE	<ol style="list-style-type: none"> <li>Select 5.VSM PRESET from the SERVICE MENU.</li> <li>Select COOL with the MENU key of the remote control unit.</li> <li>Adjust the FUNCTION UP/DOWN and +/- key to bring the set values of 1.BRIGHT ~ 9.TREBLE to the values shown in the table.</li> <li>Press the MENU key and memorize the set value.</li> <li>Respectively select the VSM PRESET mode for NORMAL and WARM, and make similar adjustment as in 3 above.</li> <li>Press the MENU key and memorize the set value.</li> </ol> <p>* Refer to OPERATING INSTRUCTIONS for the PICTURE MODE.</p>

VSM preset mode			
Setting item	COOL	NORMAL	WARM
1. BRIGHT SETTING VALUE	+0	+0	+0
2. CONT. SETTING VALUE	+12	+10	+2
3. COLOUR SETTING VALUE	+6	+0	-2
4. SHARP SETTING VALUE	+0	+0	-2
5. TINT SETTING VALUE	+0	+0	+0
6. R DRIVE SETTING VALUE	-10	+15	+22
7. B DRIVE SETTING VALUE	-20	-25	-43
8. BASS SETTING VALUE	+0	+0	+0
9. TREBLE SETTING VALUE	+0	+0	+0

SETTING VALUES OF VSM PRESET

# VIDEO / CHROMA CIRCUIT ADJUSTMENT

The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values.  
The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

Setting Item (Adjustment Item)		Initial setting value	
Setting item		PAL SECAM	NTSC 3.58 NTSC 4.43
1.CUTOFF	R	-100	
	G	-100	
	B	-100	
2.DRIVE	R	+0	
	B	+0	
3.BRIGHT		+0	
4.CONTRAST		+0	

Colour system		Initial setting value	
Setting item		PAL SECAM	NTSC 3.58 NTSC 4.43
5.COLOUR		+0	+0
6.TINT	Composite VIDEO	—	+0
	S VIDEO	—	+0
7.BLACK OFFSET (SECAM)	R-Y	+0	—
	B-Y	+0	—
8.SHARP		-10	—
9.TEXT CONT		+6	—

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE (Low Light)	Signal generator Remote control unit		1.CUT OFF (R)... (G)... (B)...  SCREEN VR [In HVT]	<ul style="list-style-type: none"> <li>Set the PICTURE MODE to COOL.</li> </ul> <ol style="list-style-type: none"> <li>Receive a black and white signal(colour off).</li> <li>Select 2. V/C from the SERVICE MENU.</li> <li>Select 1.CUT OFF with the FUNCTION UP/DOWN key.</li> <li>Show one horizontal line with the 1 key.</li> <li>Gradually turn the SCREEN VR from the left end to the right direction to bring one of the red, green or blue colour faintly visible.</li> <li>Press 4~9 key, and bring out the other 2 colours and make one horizontal line visible in white.</li> <li>Turn the SCREEN VR and bring one white horizontal line faintly visible.</li> <li>Press 2 key, turn off 1.CUT OFF screen.</li> <li>Press the MENU key and memorize the set value.</li> </ol>

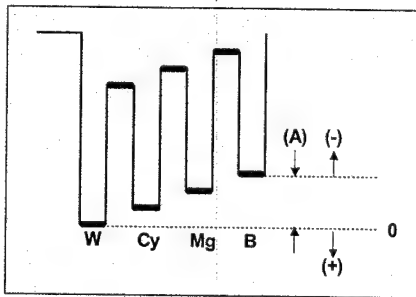
  

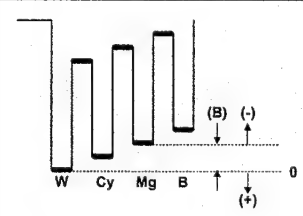
Remote Control Unit

H.LINE ON 1	H.LINE OFF 2	EXIT 3
R CUTOFF ▲ 4	G CUTOFF ▲ 5	B CUTOFF ▲ 6
R CUTOFF ▼ 7	G CUTOFF ▼ 8	B CUTOFF ▼ 9

Item	Measuring instrument	Test point	Adjustment part	Description															
Adjustment of WHITE BALANCE (High Light)	Signal generator  Remote control unit		2.DRIVE  (R) * * *  (B) * * *	1. Receive a black and white signal (colour off). 2. Select 2.V/C from the SERVICE MENU. 3. Select 2.DRIVE with the FUNCTION UP/DOWN key. 4. Change the screen colour to white with 4 key or 7 key (Drive of Red), 6 key or 9 key (Drive of Blue). 5. Press the MENU key, and memorize the set values.															
<div style="border: 1px solid black; padding: 10px; margin: 10px;"><p style="text-align: center;">Remote Control Unit</p><table style="width: 100%; text-align: center;"><tr><td>1</td><td>2</td><td>3</td></tr><tr><td>R DRIVE ▲</td><td></td><td>B DRIVE ▲</td></tr><tr><td>4</td><td>5</td><td>6</td></tr><tr><td>R DRIVE ▼</td><td></td><td>B DRIVE ▼</td></tr><tr><td>7</td><td>8</td><td>9</td></tr></table></div>					1	2	3	R DRIVE ▲		B DRIVE ▲	4	5	6	R DRIVE ▼		B DRIVE ▼	7	8	9
1	2	3																	
R DRIVE ▲		B DRIVE ▲																	
4	5	6																	
R DRIVE ▼		B DRIVE ▼																	
7	8	9																	
Adjustment of SUB BRIGHT	Remote control unit		3.BRIGHT	1. Receive any broadcast. 2. Select 2.V/C from the SERVICE MENU. 3. Select 3.BRIGHT with the FUNCTION UP/DOWN key. 4. Set the initial setting value with the FUNCTION +/- key. 5. If the brightness is not the best with the initial setting value, make fine adjustment until you get the best brightness. 6. Press the MENU key and memorize the set value.															
Adjustment of SUB CONT.	Remote control unit		4.CONT.	1. Receive any broadcast. 2. Select 2.V/C from the SERVICE MENU. 3. Select 4.CONT with the FUNCTION UP/DOWN key. 4. Set the initial setting value with the FUNCTION - or + key. 5. If the contrast is not the best with the initial setting value, make fine adjustment until you get the best contrast. 6. Press the MENU key and memorize the set value.															

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB COLOUR I	Remote control unit		5.COLOUR (PAL~NTSC)	[Method of adjustment without measuring instrument]
				PAL COLOUR (PAL COLOUR) <ol style="list-style-type: none"> <li>1. Receive PAL broadcast.</li> <li>2. Select 2.V/C from the SERVICE MENU.</li> <li>3. Select 5.COLOUR with the FUNCTION UP/DOWN key.</li> <li>4. Set the initial setting value for PAL COLOUR with the FUNCTION - or + key.</li> <li>5. If the colour is not the best with the initial set value, make fine adjustment until you get the best colour.</li> <li>6. Press the MENU key and memorize the set value.</li> </ol>
				SECAM COLOUR Only AV-28WT4EN AV-28WT4ENS (SECAM COLOUR) <ol style="list-style-type: none"> <li>1. Receive a SECAM broadcast. Make fine adjustment of SECAM COLOUR in the same manner as for above.</li> </ol>
				NTSC COLOUR (NTSC 3.58 COLOUR) <ol style="list-style-type: none"> <li>1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal from the EXT terminal.</li> <li>2. Make similar fine adjustment of NTSC 3.58 COLOUR in the same manner as for above.</li> </ol>
				(NTSC 4.43 COLOUR) <ol style="list-style-type: none"> <li>1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.</li> </ol>

Item	Measuring instrument	Test point	Adjustment part	Description						
Adjustment of SUB COLOUR II	Signal generator	TP-47B TP-E(⬇)	5.COLOUR (PAL~NTSC)	[Method of adjustment using measuring instrument]						
	Oscilloscope	[CRT SOCKET PWB]								
	Remote control unit									
			PAL COLOUR	(PAL COLOUR) 1. Receive a PAL full field colour bar signal (75% white). 2. Select 2.V/C from the SERVICE MENU. 3. Select 5.COLOUR with the FUNCTION UP/DOWN key. 4. Set the initial setting value of PAL COLOUR with the FUNCTION - or + key. 5. Connect the oscilloscope between TP-47B and TP-E(⬇) 6. Adjust PAL COLOUR and bring the value of (A) in the illustration to the values as shown below (voltage difference between white (w) and blue (B)). 7. Press the MENU key and memorize the setting value. <table border="1"> <thead> <tr> <th>MODEL</th><th>VOLTAGE(W-B)</th></tr> </thead> <tbody> <tr> <td>AV-28WT4EK/EKS</td><td>+12V</td></tr> <tr> <td>AV-28WT4EN/ENS</td><td>+3V</td></tr> </tbody> </table>	MODEL	VOLTAGE(W-B)	AV-28WT4EK/EKS	+12V	AV-28WT4EN/ENS	+3V
MODEL	VOLTAGE(W-B)									
AV-28WT4EK/EKS	+12V									
AV-28WT4EN/ENS	+3V									
			SECAM COLOUR Only AV-28WT4EN AV-28WT4ENS	(SECAM COLOUR) 1. Receive a SECAM full field colour bar signal(75% white). 2. Set the initial setting value of SECAM COLOUR with the FUNCTION +/- key. 3. Adjust SECAM COLOUR and bring the value of (A) of the illustration to +4V. 4. Press the MENU key and memorize the setting value.						
			NTSC COLOUR	(NTSC 3.58 COLOUR) 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Set the initial setting value of NTSC 3.58 COLOUR with the FUNCTION +/- key. 3. Adjust NTSC 3.58 COLOUR and bring the value of (A) of the illustration to +8V(W~B). 4. Press the MENU key and memorize the setting value. 						
				(NTSC 4.43 COLOUR) 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.						

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB TINT I	Remote control unit		6.TINT	[Method of adjustment without measuring instrument]
			NTSC 3.58 TINT	[NTSC 3.58 TINT] 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V/C from the SERVICE MENU. 3. Select 6. TINT with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 TINT with the FUNCTION +/- key. 5. If you cannot get the best tint with the initial setting value, make fine adjustment until you get the best tint. 6. Press the MENU key and memorize the set value.
			NTSC 4.43 TINT	[NTSC 4.43 TINT] 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.
Adjustment of SUB TINT II	Signal generator	TP-47B TP-E(↓)	6. TINT	[Method of adjustment using measuring instrument]
	Oscilloscope	[CRT SOCKET PWB]		
	Remote control unit			
			NTSC 3.58 TINT	[NTSC 3.58 TINT] 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V/C from the SERVICE MENU. 3. Select 6.TINT with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 TINT with the FUNCTION - or + key. 5. Connect the oscilloscope between TP-47B and TP-E(↓) 6. Adjust NTSC 3.58 TINT to bring the value of (B) in the illustration to +3V (voltage difference between white (W) and magenta (Mg)). 7. Press the MENU key and memorize the setting value 
			NTSC 4.43 TINT	[NTSC 4.43 TINT] 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.

[Only AV-28WT4EN / AV-28WT4ENS]

Item	Measuring Instrument	Test point	Adjustment part	Description
Adjustment of BLACK OFFSET (SECAM) I	Remote control unit		7. BLACK OFFSET (R-Y) *** (B-Y) ***	[Method of adjustment without measuring instrument]  1. Receive a SECAM broadcast. 2. Select 2. V/C from SERVICE MENU. 3. Select 7. BLACK OFFSET with the FUNCTION UP/DOWN key. 4. Set the initial setting value for BLACK OFFSET (R-Y) and (B-Y) with 4 and 7 or 6 and 9 keys of the remote control. 5. If the picture is not the best with the initial setting value, make fine adjustment until you get the best picture. 6. Press the MENU key and memorize the setting value.
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>REMOTE CONTROL UNIT</p> </div>				
Adjustment of BLACK OFFSET (SECAM) II	Signal generator Oscilloscope Remote control unit	35 PIN (R-Y) 36 PIN (B-Y) IC-101 ON MAIN PWB	7. BLACK OFFSET (R-Y) *** (B-Y) ***	[Method of adjustment using measuring instrument]  1. Receive a SECAM COLOUR bar signal (full field colour bar 75% white). 2. Select 2. V/C from SERVICE MENU. 3. Select 7. BLACK OFFSET with the FUNCTION UP/DOWN key. 4. Connect the oscilloscope between 35 pin of IC-101 and TP-E (↕). 5. By using 4 and 7 keys of the remote control, adjust the BLACK OFFSET (R-Y) so that it becomes the waveform changes from (a) to (b) shown in the figure. 6. Connect the oscilloscope between 36 pin of IC-101 and TP-E. 7. By using 6 and 9 keys of the remote control, adjust the BLACK OFFSET (B-Y) so that it becomes the waveform changes from (c) to (d) shown in the figure. 8. If the picture is not the best with the adjusted picture, make fine adjustment until you get the best picture. 9. Press the MENU key and memorize the setting value.
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>[R-Y]</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>[B-Y]</p> </div>				

## DEFLECTION CIRCUIT ADJUSTMENT

There are 7 modes of the adjustment ( 1 ) 50Hz mode ( ①PANORAMIC ②FULL ③REGULAR ④14:9 ZOOM ⑤16:9 ZOOM ⑥16:9 ZOOM SUB TITLE ), ( 2 ) 60Hz mode ( each aspect mode ) ..... depending upon the kind of signals ( vertical frequency 50Hz / 60Hz ).

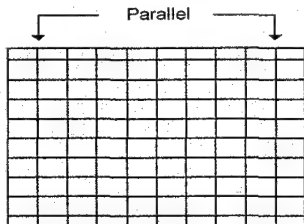
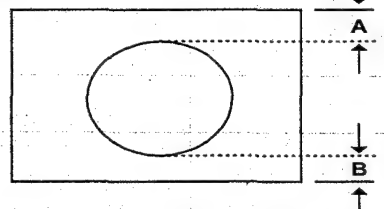
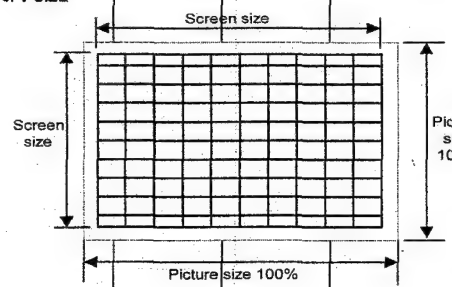
- The adjustment using the remote control unit is made on the basis of the initial setting values.
- When the 50Hz PANORAMIC mode has been established, the setting of other modes will be done automatically. However, if the picture quality has not been optimized, adjust each mode again, respectively.
- The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

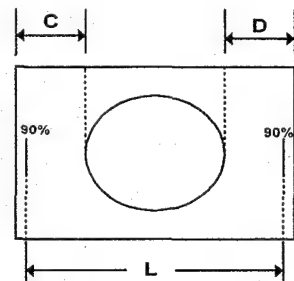
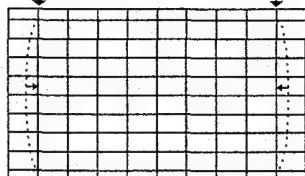
### Initial setting value (1/2)

Setting item	Adjustment name	Initial setting value			
		50Hz mode			
		PANORAMIC	14:9 ZOOM	16:9 ZOOM	16:9 ZOOM SUB TITLE
1.TRAPEZ	Trapezoidal distortion correction	-12	-1	-1	+2
2.V-SHIFT	Vertical center	+1	+0	-1	-16
3.V-SIZE	Vertical height	-10	+10	+25	+24
4.H-CENT	Horizontal center	-10	-10	-10	-10
5.H-SIZE	Horizontal width	+21	-13	-8	-7
6.EW-PIN	Side pin correction	-7	+0	+7	+2
7.V-S.CR	Vertical height correction	+5(Fixed)	-8(Fixed)	-15(Fixed)	-2(Fixed)
8.V-LIN	Vertical Linearity	+1	-1	-1	-7
9.V-EDGE	Vertical edge correction	+7	+0	+0	+0
10.EW-COR	Side pin four corner correction	+7	-1	-2	+1
11.ABL POINT	Auto beam limiter point	+0(Fixed)	+3(Fixed)	+0(Fixed)	+0(Fixed)
12.ABL GAIN	Auto beam limiter gain	+0(Fixed)	+2(Fixed)	+0(Fixed)	+0(Fixed)

### Initial setting value (2/2)

Setting item	Adjustment name	Initial setting value		
		50Hz mode		60Hz mode
		FULL	REGULAR	PANORAMIC
1.TRAPEZ	Trapezoidal distortion correction	+1	+0	-1
2.V-SHIFT	Vertical center	+0	+2	+5
3.V-SIZE	Vertical height	-9	-7	-2
4.H-CENT	Horizontal center	-10	-10	-6
5.H-SIZE	Horizontal width	-7	-21	+0
6.EW-PIN	Side pin correction	-7	-8	-1
7.V-S.CR	Vertical height correction	-3(Fixed)	-3(Fixed)	+0(Fixed)
8.V-LIN	Vertical Linearity	-1	-1	+0
9.V-EDGE	Vertical edge correction	+0	+0	+0
10.EW-COR	Side pin four corner correction	-6	-4	-3
11.ABL POINT	Auto beam limiter point	+0(Fixed)	+3(Fixed)	+0(Fixed)
12.ABL GAIN	Auto beam limiter gain	+0(Fixed)	+2(Fixed)	+0(Fixed)

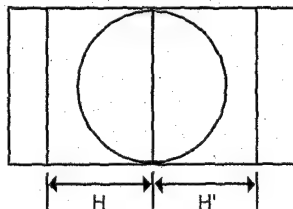
Item	Measuring instrument	Test point	Adjustment part	Description																					
Adjustment of TRAPEZ	Signal generator Remote control unit		1.TRAPEZ	[50Hz PANORAMIC mode] 1. Receive a cross-hatch signal of vertical frequency 50Hz. 2. Select 4.DEF from the SERVICE MENU. 3. Select 1.TRAPEZ with the FUNCTION UP/DOWN key. 4. Set the initial setting value of TRAPEZ with the FUNCTION - or + key. 5. Adjust TRAPEZ and bring the VERTICAL lines at the right and left edges of the screen parallel.																					
																									
Adjustment of V-SHIFT			2.V-SHIFT	6. Receive a circle pattern signal 7. Select 2.V-SHIFT and set the initial setting value. 8. Adjust V-SHIFT to make A = B. 9. Press the MENU key and memorize the set value.																					
																									
Adjustment of V-SIZE			3.V. SIZE	10. Receive a cross-hatch signal. 11. Select 3.V-SIZE and set the initial setting value. 12. Adjust V-SIZE and make sure that the vertical screen size of the picture size is in the below table. 13. Press the MENU key and memorize the set value. 14. Input a NTSC VIDEO signal from the EXT terminal, and make sure that the vertical screen size of the each ASPECT mode is in the table below. 15. Press the MENU key and memorize the set value.																					
																									
<table border="1"> <thead> <tr> <th>MODE</th><th>PANORAMIC</th><th>14:9 ZOOM</th><th>16:9 ZOOM</th><th>16:9 ZOOM SUB TITLE</th><th>FULL</th><th>REGULAR</th></tr> </thead> <tbody> <tr> <td>SCREEN TOP</td><td>87%</td><td>80%</td><td>70%</td><td>70%</td><td>92%</td><td>92%</td></tr> <tr> <td>SCREEN BOTTOM</td><td>87%</td><td>80%</td><td>70%</td><td>83%</td><td>92%</td><td>92%</td></tr> </tbody> </table> <p>[ SCREEN SIZE ]</p>					MODE	PANORAMIC	14:9 ZOOM	16:9 ZOOM	16:9 ZOOM SUB TITLE	FULL	REGULAR	SCREEN TOP	87%	80%	70%	70%	92%	92%	SCREEN BOTTOM	87%	80%	70%	83%	92%	92%
MODE	PANORAMIC	14:9 ZOOM	16:9 ZOOM	16:9 ZOOM SUB TITLE	FULL	REGULAR																			
SCREEN TOP	87%	80%	70%	70%	92%	92%																			
SCREEN BOTTOM	87%	80%	70%	83%	92%	92%																			

Item	Measuring instrument	Test point	Adjustment part	Description														
Adjustment of H-CENTER			4.H-CENT.	16. Receive a circle pattern signal. 17. Select 4.H-CENT and set the initial setting value. 18. Adjust H-CENT to make C=D. 19. Press the MENU key and memorize the set value.														
																		
Adjustment of H-SIZE			5.H-SIZE	20. Receive a cross-hatch signal. 21. Select 5.H-SIZE and set the initial setting value. 22. Adjust H-SIZE and make sure that the horizontal screen size of the picture size is in the below table. 23. Press the MENU key and memorize the set value.  ※The numeric of the REGULAR and 14:9-ZOOM-modes are shown the length of the 90% horizontal size position( L ) as shown in the figure above.  24. Input a NTSC VIDEO signal from the EXT terminal, and make sure that the horizontal screen size of the each ASPECT mode is in the below table. 25. Press the MENU key and memorize the set value.														
<table border="1"> <thead> <tr> <th>ASPECT MODE</th><th>PANORAMIC</th><th>14:9 ZOOM</th><th>16:9 ZOOM</th><th>16:9 ZOOM SUB TITLE</th><th>FULL</th><th>REGULAR</th></tr> </thead> <tbody> <tr> <td>H SIZE</td><td>94%</td><td>L=495mm</td><td>92%</td><td>92%</td><td>92%</td><td>L=440mm</td></tr> </tbody> </table> <p>[ SCREEN SIZE ]</p>					ASPECT MODE	PANORAMIC	14:9 ZOOM	16:9 ZOOM	16:9 ZOOM SUB TITLE	FULL	REGULAR	H SIZE	94%	L=495mm	92%	92%	92%	L=440mm
ASPECT MODE	PANORAMIC	14:9 ZOOM	16:9 ZOOM	16:9 ZOOM SUB TITLE	FULL	REGULAR												
H SIZE	94%	L=495mm	92%	92%	92%	L=440mm												
Adjustment of EW-PIN			6.EW-PIN	26. Select 6.EW-PIN and set the initial setting value 27. Adjust EW-PIN and make the 2nd.vertical lines at the left and right edges of the screen straight. Also make sure that the 3rd vertical lines are straight. 28. Press the MENU key and memorize the set value.														
																		

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V-S.CR			7.V-S.CR 8.V-LIN 9.V-EDGE	<p>★ No alignment, but adjust this mode if result of no alignment is too bad.</p> <p>29. Select 7.V-S.CR, 8.V-LIN and 9.V-EDGE and set the initial setting value.</p> <p>30. Adjust each item to get exact square of cross-hatch pattern.</p> <p>31. Press the MENU key and memorize the set value.</p>
Adjustment of EW-COR			10.EW-COR	<p>★ No alignment, but adjust this mode if result of no alignment is too bad.</p> <p>32. Select 10.EW-COR and set the initial setting value.</p> <p>33. Adjust EW-COR and make the vertical lines at the four corners of the screen straight.</p> <p>34. Press the MENU key and memorize the set value.</p>
				<p>At first the adjustment in 50Hz-PANORAMIC mode should be done, then the data for the other zoom mode is corrected in the respective value at the same time. And confirm the deflection adjustment initial setting value in 60Hz( NTSC EXT mode ) PANORAMIC mode. If the adjustment in 50Hz each zoom mode has been done and stored, the data for the same aspect modes in 60Hz is corrected in the respective value. Only the data for the other aspect mode in 60Hz is corrected for itself.</p>

#### H. BLANKING ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of H.BLANKING			H.BLK Capacitor [On MAIN PWB]	<p>1. Receive the PAL circle pattern in REGULAR mode.</p> <p>2. Adjust the H.BLK capacitor to equalize widths H and H' as figure.</p>



#### AUDIO CIRCUIT ADJUSTMENT

- Do not touch 3.AUDIO(1. CONC LIMIT, 2. A2 ID THR) of the SERVICE MENU as it requires no adjustment.

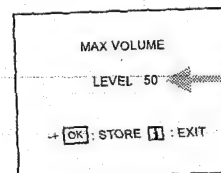
#### 3. AUDIO

Setting item	Variable range	fixed value
1. CONC LIMIT(Do not adjust)	00H~FFH	0AH
2. A2 ID THR(Do not adjust)	00H~FFH	19H

#### SETTING of MAX VOLUME

- This model has a function that can set MAX VOLUME in the SERVICE MENU. (Do not adjust them under normal condition)

Item	Measuring instrument	Test point	Adjustment part	Description
Setting of MAX VOLUME	Remote Control unit		MAX VOLUME	<p>1. Select 8. MAX VOLUME from the SERVICE MENU.</p> <p>2. Set the setting value with the FUNCTION +/- key.</p> <p>3. Usually, set the value to LEVEL 50.</p>



# PARTS LIST

## CAUTION

- The parts identified by the  $\Delta$  symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

## ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%

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● POWER / DEF PW BOARD ASS'Y ..... 51

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USING PW BOARD & REMOTE CONTROL UNIT

<div>PWB ASS'Y</div> <div>Model</div>	AV-28WT4EK	AV-28WT4EKS	AV-28WT4EN	AV-28WT4ENS
MAIN PWB	SJF-1923A-U2	←	SJF-1023A-U2	←
AUTO ASPECT MODULE PWB	SMC-W001A(U)	←	←	←
IF MODULE PWB	SJF0F921A-U2	←	SJF0F021A-U2	←
POWER / DEF PWB	SJF-2023A-U2	←	←	←
CRT SOCKET PWB	SJF-3022A-U2	←	←	←
FRONT CONTROL PWB	SJF-8023A-U2	←	←	←
AV TERMINAL PWB	SJF0J022A-U2	←	←	←
REMOTE CONTROL UNIT	RM-C794-1E	←	RM-C795-1E	←

## AV-28WT4EK / AV-28WT4EKS

## EXPLODED VIEW PARTS LIST

△ Ref.No.	Part No.	Part Name	Description	Local
<b>AV-28WT4EK</b>				
△ L01	Q0W0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V. TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(×2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSB5B3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSB5B3012M	TAPPING SCREW	(×3)For AV TERMI BOARD	*
△ 10	AEEMP003-185A	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(×13)For R.COVER	*
△ 14	LC20091-005A-U	RATING LABEL		*
16	CEBSF10P-01KJ6	SPEAKER	(×2)SP01,SP02	*
17	2528MXSP-2SE	DOVE SP ASSY	(×2)	*
18	CM36226-C0A-H	SPEAKER NET	(×2)	*
100	CM12677-B0U-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-010-E	POWER KNOB	(SERVICE)	*
107	CM48125-001	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-015-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(×2)	*

## AV-28WT4EKS

△ L01	Q0W0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V. TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(×2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSB5B3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSB5B3012M	TAPPING SCREW	(×3)For AV TERMI BOARD	*
△ 10	AEEMP003-185A	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(×13)For R.COVER	*
△ 14	LC20091-006A-U	RATING LABEL		*
16	CEBSF10P-01KJ6	SPEAKER	(×2)SP01,SP02	*
17	2528MXSP-2SE	DOVE SP ASSY	(×2)	*
18	CM36226-00B-H	SP NET ASSY	(×2)	*
100	CM12677-B0V-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-011-E	POWER KNOB	(SERVICE)	*
107	CM48125-00A	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-017-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(×2)	*

## AV-28WT4EN / AV-28WT4ENS

## EXPLODED VIEW PARTS LIST

△ Ref.No.	Part No.	Part Name	Description	Local
<b>AV-28WT4EN</b>				
△ L01	Q0W0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V. TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(×2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSB5B3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSB5B3012M	TAPPING SCREW	(×3)For AV TERMI BOARD	*
△ 10	AEEMP001-185	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(×13)For R.COVER	*
△ 14	LC20092-011A-U	RATING LABEL	For ENG/GER/ITA	*
△ 15	LC20093-011A-U	RATING LABEL	For ENG/ESP/FRA	*
16	CEBSF10P-01KJ6	SPEAKER	(×2)SP01,SP02	*
17	2528MXSP-2SE	DOVE SP ASSY	(×2)	*
18	CM36226-C0A-H	SPEAKER NET	(×2)	*
100	CM12677-B0W-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-010-E	POWER KNOB	(SERVICE)	*
107	CM48125-001	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-015-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(×2)	*

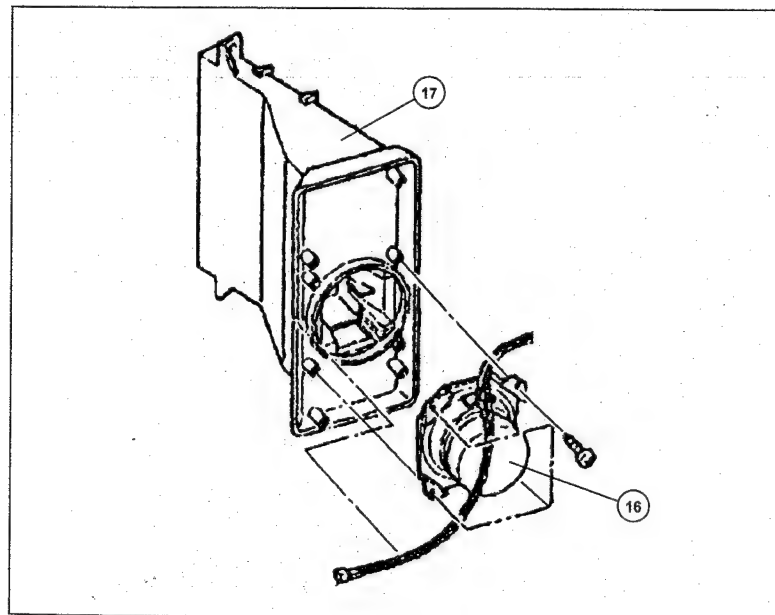
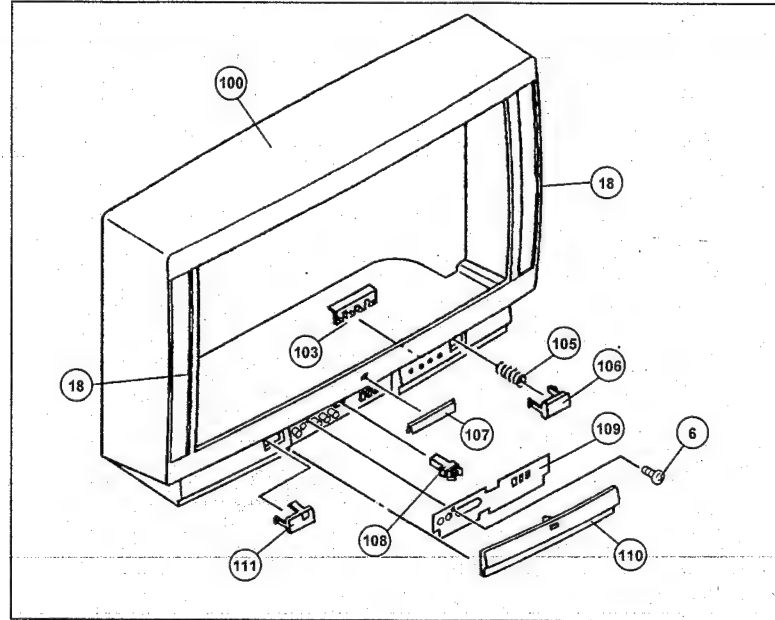
## AV-28WT4ENS

△ L01	Q0W0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V. TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(×2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSB5B3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSB5B3012M	TAPPING SCREW	(×3)For AV TERMI BOARD	*
△ 10	AEEMP001-185	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(×13)For R.COVER	*
△ 14	LC20092-012A-U	RATING LABEL	For ENG/GER/ITA	*
△ 15	LC20093-012A-U	RATING LABEL	For ENG/ESP/FRA	*
16	CEBSF10P-01KJ6	SPEAKER	(×2)SP01,SP02	*
17	2528MXSP-2SE	DOVE SP ASSY	(×2)	*
18	CM36226-00B-H	SP NET ASSY	(×2)	*
100	CM12677-B0X-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-011-E	POWER KNOB	(SERVICE)	*
107	CM48125-00A	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-017-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(×2)	*

AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

# AV-28WT4EK / AV-28WT4EKS / AV-28WT4EN / AV-28WT4ENS

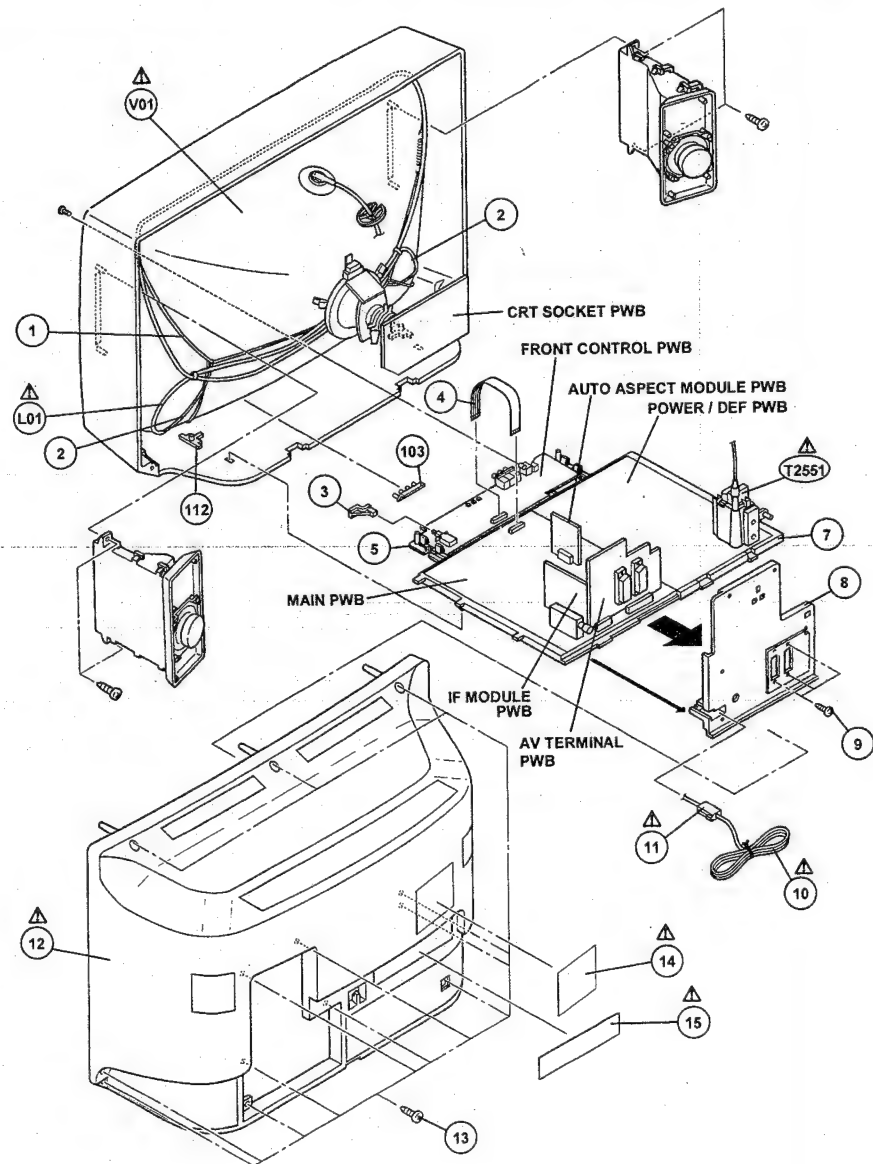
## EXPLODED VIEW I



AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

# AV-28WT4EK / AV-28WT4EKS / AV-28WT4EN / AV-28WT4ENS

## EXPLODED VIEW II



# AV-28WT4EK / 28WT4EKS

## PRINTED WIRING BOARD PARTS LIST

### MAIN P.W. BOARD ASS'Y (SJF-1923A-U2)

Symbol No.	Part No.	Part Name	Description	Local
<b>RESISTOR</b>				
R1001	QRK125-474X	C R	470K 1/2W J *	
R1002	QRE141J-104Y	C R	100K 1/4W J *	
R1003-06	QRE141J-102Y	C R	1K 1/4W J *	
R1001-02	QRE141J-391Y	C R	390K 1/4W J *	
R1003-04	QRE141J-102Y	C R	1K 1/4W J *	
R1005	QRE141J-562Y	C R	5.6K 1/4W J *	
R1006	QRE141J-102Y	C R	1K 1/4W J *	
R1007	QRE141J-561Y	C R	560K 1/4W J *	
R1108	QRE141J-224Y	C R	220K 1/4W J *	
R1109	QRE141J-273Y	C R	27K 1/4W J *	
R1110	QRE141J-103Y	C R	10K 1/4W J *	
R1111	QRE141J-472Y	C R	4.7K 1/4W J *	
R1112-14	QRE141J-101Y	C R	100K 1/4W J *	
R1115-18	QRE141J-102Y	C R	1K 1/4W J *	
R1119	QRE141J-333Y	C R	33K 1/4W J *	
R1120	QRE141J-102Y	C R	1K 1/4W J *	
R1121	QRE141J-472Y	C R	4.7K 1/4W J *	
R1123	QRE141J-103Y	C R	10K 1/4W J *	
R1165	QRE141J-102Y	C R	1K 1/4W J *	
R1166	QRE141J-681Y	C R	680K 1/4W J *	
R1167	QRE141J-123Y	C R	12K 1/4W J *	
R1169	QRE141J-123Y	C R	12K 1/4W J *	
R1172	QRE141J-561Y	C R	560K 1/4W J *	
R1201	QRE141J-750Y	C R	75K 1/4W J *	
R1202	QRJ146J-271X	C R	270K 1/4W J *	
R1203	QRE141J-101Y	C R	100K 1/4W J *	
R1204	QRG01GJ-101	OM R	100K 1W J *	
R1205	QRE141J-101Y	C R	100K 1/4W J *	
R1206	QRE141J-331Y	C R	330K 1/4W J *	
R1208	QRE141J-472Y	C R	4.7K 1/4W J *	
R1209	QRE141J-152Y	C R	1.5K 1/4W J *	
R1210	QRE141J-101Y	C R	100K 1/4W J *	
R1211	QRE141J-822Y	C R	8.2K 1/4W J *	
R1212	QRE141J-101Y	C R	100K 1/4W J *	
R1213	QRE141J-682Y	C R	6.8K 1/4W J *	
R1214-15	QRE141J-471Y	C R	470K 1/4W J *	
R1218-19	QRE141J-391Y	C R	390K 1/4W J *	
R1220-21	QRE141J-103Y	C R	10K 1/4W J *	
R1222	QRE141J-221Y	C R	220K 1/4W J *	
R1223	QRE141J-750Y	C R	75K 1/4W J *	
R1224	QRE141J-331Y	C R	330K 1/4W J *	
R1225	QRE141J-151Y	C R	150K 1/4W J *	
R1226	QRE141J-101Y	C R	100K 1/4W J *	
R1228	QRE141J-182Y	C R	1.8K 1/4W J *	
R1229	QRE141J-273Y	C R	27K 1/4W J *	
R1230	QRE141J-391Y	C R	390K 1/4W J *	
R1231	QRE141J-182Y	C R	1.8K 1/4W J *	
R1232	QRG01GJ-101	OM R	100K 1W J *	
R1233-34	QRE141J-252Y	C R	1.5K 1/4W J *	
R1235-36	QRE141J-103Y	C R	10K 1/4W J *	
R1237-38	QRE141J-471Y	C R	470K 1/4W J *	
R1242	QRE141J-823Y	C R	82K 1/4W J *	
R1243	QRE141J-391Y	C R	390K 1/4W J *	
R1245	QRE141J-823Y	C R	82K 1/4W J *	
R1246	QRE141J-391Y	C R	390K 1/4W J *	
R1247-48	QRE141J-103Y	C R	10K 1/4W J *	
R1249	QRE141J-221Y	C R	220K 1/4W J *	
R1252	QR29017-470	FUSI. RESISTOR	47 1/4W J *	
R1253	QRE141J-103Y	C R	10K 1/4W J *	
R1254-55	QRE141J-183Y	C R	18K 1/4W J *	
R1256	QRE141J-103Y	C R	10K 1/4W J *	

Symbol No.	Part No.	Part Name	Description	Local
<b>RESISTOR</b>				
R1257	QRE141J-222Y	C R	2.2K 1/4W J *	
R1260-61	QRE141J-750Y	C R	75K 1/4W J *	
R1262-63	QRE141J-101Y	C R	100K 1/4W J *	
R1264	QRE141J-561Y	C R	560K 1/4W J *	
R1268	QRE141J-221Y	C R	220K 1/4W J *	
R1401-02	QRE141J-103Y	C R	10K 1/4W J *	
R1403	QRE141J-682Y	C R	6.8K 1/4W J *	
R1404	QRE141J-183Y	C R	18K 1/4W J *	
R1405	QRE141J-223Y	C R	22K 1/4W J *	
R1406	QRE141J-102Y	C R	1K 1/4W J *	
R1451	QRE141J-104Y	C R	100K 1/4W J *	
R1452	QRE141J-153Y	C R	15K 1/4W J *	
R1453	QRE141J-333Y	C R	33K 1/4W J *	
R1455	QRE141J-184Y	C R	18K 1/4W J *	
R1456	QRE141J-562Y	C R	5.6K 1/4W J *	
R1457	QRE141J-223Y	C R	22K 1/4W J *	
R1458	QRE141J-104Y	C R	100K 1/4W J *	
R1501	QRE141J-621Y	C R	62K 1/4W J *	
R1503	QRE141J-103Y	C R	10K 1/4W J *	
R1504	QRE141J-104Y	C R	100K 1/4W J *	
R1506	QRE141J-103Y	C R	10K 1/4W J *	
R1508	QRE141J-682Y	C R	6.8K 1/4W J *	
R1509	QRE141J-123Y	C R	12K 1/4W J *	
R1510	QRE141J-392Y	C R	3.9K 1/4W J *	
R1511	QRE141J-392Y	C R	3.9K 1/4W J *	
R1601-02	QRE141J-102Y	C R	1K 1/4W J *	
R1603	QRE141J-182Y	C R	1.8K 1/4W J *	
R1604	QRE141J-333Y	C R	33K 1/4W J *	
R1605	QRE141J-182Y	C R	1.8K 1/4W J *	
R1606	QRE141J-333Y	C R	33K 1/4W J *	
R1607-08	QRE141J-103Y	C R	10K 1/4W J *	
R1681-82	QRE141J-101Y	C R	100K 1/4W J *	
R1683-84	QRE141J-470Y	C R	47K 1/4W J *	
R1685-86	QRE141J-152Y	C R	1.5K 1/4W J *	
R1687-88	QRJ146J-282X	C R	2.2K 1/4W J *	
R1691	QRE141J-122Y	C R	1.2K 1/4W J *	
R1693-94	QRE141J-104Y	C R	100K 1/4W J *	
R1695	QRE141J-331Y	C R	330K 1/4W J *	
R1701	QR8049J-472	NET. R	4.7K 1/4W J *	
R1702	QR8069J-103	NET. R	10K 1/4W J *	
R1703-04	QRE141J-102Y	C R	1K 1/4W J *	
R1705	QRE141J-331Y	C R	330K 1/4W J *	
R1706	QRE141J-102Y	C R	1K 1/4W J *	
R1707	QRE141J-331Y	C R	330K 1/4W J *	
R1708	QRE141J-274Y	C R	270K 1/4W J *	
R1709-12	QRE141J-103Y	C R	10K 1/4W J *	
R1713-20	QRE141J-102Y	C R	1K 1/4W J *	
R1721	QRE141J-104Y	C R	100K 1/4W J *	
R1722	QRE141J-221Y	C R	220K 1/4W J *	
R1723	QRE141J-101Y	C R	100K 1/4W J *	
R1724-29	QRE141J-102Y	C R	1K 1/4W J *	
R1730-34	QRE141J-472Y	C R	4.7K 1/4W J *	
R1735-37	QRE141J-152Y	C R	1.5K 1/4W J *	
R1738	QRE141J-563Y	C R	56K 1/4W J *	
R1739	QRE141J-562Y	C R	5.6K 1/4W J *	
R1740	QRE141J-103Y	C R	10K 1/4W J *	
R1741	QRE141J-223Y	C R	22K 1/4W J *	
R1742	QRE141J-104Y	C R	15K 1/4W J *	
R1743	QRE141J-103Y	C R	10K 1/4W J *	
R1744	QRE141J-562Y	C R	5.6K 1/4W J *	
R1745	QRE141J-103Y	C R	10K 1/4W J *	

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1746	QRE141J-682Y	C R	6.8K 1/4W J	*
R1747	QRE141J-823Y	C R	82K 1/4W J	*
R1748	QRE141J-104Y	C R	100K 1/4W J	*
R1749	QRE141J-682Y	C R	6.8K 1/4W J	*
R1759	QRE141J-103Y	C R	10K 1/4W J	*
R1760	QRE141J-472Y	C R	4.7K 1/4W J	*
R1761	QRE141J-473Y	C R	47K 1/4W J	*
R1762-64	QRE141J-102Y	C R	1K 1/4W J	*
R1766	QRE141J-104Y	C R	100K 1/4W J	*
R1767	QRE141J-473Y	C R	47K 1/4W J	*
R1770	QRE141J-222Y	C R	2.2K 1/4W J	*
R1772-73	QRE141J-102Y	C R	1K 1/4W J	*
R1781-82	QRE141J-102Y	C R	1K 1/4W J	*
R1783-84	QRE141J-221Y	C R	220K 1/4W J	*
R1785-87	QRE141J-102Y	C R	1K 1/4W J	*
R1789	QRE141J-102Y	C R	1K 1/4W J	*
R1790	QRE141J-393Y	C R	39K 1/4W J	*
R1791-92	QR8049J-103	NET. R	10K 1/4W J	*
R1793	QRE141J-562Y	C R	5.6K 1/4W J	*
R1794-95	QRE141J-102Y	C R	1K 1/4W J	*
R1801	QRE141J-221Y	C R	220K 1/4W J	*
R1802-03	QRE141J-102Y	C R	1K 1/4W J	*
R1804	QRE141J-681Y	C R	680K 1/4W J	*
R1805	QRE141J-102Y	C R	1K 1/4W J	*
R1808-10	QRE141J-333Y	C R	33K 1/4W J	*
R1811	QRE141J-332Y	C R	3.3K 1/4W J	*
R1812	QRE141J-822Y	C R	8.2K 1/4W J	*
R1813	QRE141J-221Y	C R	220K 1/4W J	*
R1814	QRE141J-391Y	C R	390K 1/4W J	*
R1815	QRE141J-122Y	C R	1.2K 1/4W J	*
R1819	QRE141J-333Y	C R	33K 1/4W J	*
R1820	QRE141J-102Y	C R	1K 1/4W J	*
R1822	QRE141J-102Y	C R	1K 1/4W J	*
R1823	QRE141J-561Y	C R	560K 1/4W J	*
R1824	QRE141J-271Y	C R	270K 1/4W J	*
R1825	QRE141J-561Y	C R	560K 1/4W J	*
R1826	QRE141J-271Y	C R	270K 1/4W J	*
R1827	QRE141J-561Y	C R	560K 1/4W J	*
R1828	QRE141J-271Y	C R	270K 1/4W J	*
R1829	QRE141J-104Y	C R	100K 1/4W J	*
R1868	QRE141J-221Y	C R	220K 1/4W J	*
R1902	QRG01GJ-181	OM R	180K 1W J	*
R1962	QRG01GJ-121	OM R	120K 1W J	*
CAPACITOR				
C1001	QETN1HM-226Z	E CAP.	22uF 50V M	*
C1002	QCB31HK-222Z	C CAP.	2200pF 50V K	*
C1003	QETN1CM-108Z	E CAP.	1000uF 16V M	*
C1004	QETN1HM-106Z	E CAP.	10uF 50V M	*
C1005	QC20120-104Z	C CAP.	0.1uF 25V Z	*
C1006	QETN1CM-107Z	E CAP.	1000uF 16V M	*
C1007-09	QC20120-104Z	C CAP.	0.1uF 25V Z	*
C1101	QETN1CM-107Z	E CAP.	100uF 16V M	*
C1102	QC20120-104Z	C CAP.	0.1uF 25V Z	*
C1103	QFV71HJ-104Z	MF CAP.	0.1uF 50V J	*
C1104	QFLC1HJ-823Z	H CAP.	0.082uF 50V J	*
C1105	QETN1HM-474Z	E CAP.	0.47uF 50V M	*
C1107	QCB31HK-103Z	C CAP.	0.01uF 50V K	*
C1109	QETN1CM-477Z	E CAP.	470uF 16V M	*
C1110	QDC31HJ-120Z	C CAP.	120pF 50V J	*
C1111	QETN1HM-106Z	E CAP.	10uF 50V M	*
C1112	QCB31HK-103Z	C CAP.	0.01uF 50V K	*
C1113-15	QFV71HJ-104Z	MF CAP.	0.1uF 50V J	*
C1116	QETN1HM-225Z	E CAP.	2.2uF 50V M	*
C1117	QFLC1HJ-103Z	H CAP.	0.01uF 50V J	*
C1118-20	QETN1HM-105Z	E CAP.	1uF 50V M	*
C1121	QETN1HM-475Z	E CAP.	4.7uF 50V M	*
C1122	QETN1CM-107Z	E CAP.	1000uF 16V M	*
C1123	QCB31HJ-680Z	C CAP.	680pF 50V J	*
C1124-25	QETN1HM-106Z	E CAP.	10uF 50V M	*
C1126	QETN1CM-476Z	E CAP.	47uF 16V M	*
C1127	QCB31HK-103Z	C CAP.	0.01uF 50V K	*
C1129	QCB31HJ-680Z	C CAP.	680pF 50V J	*
C1130	QFV71HJ-334Z	MF CAP.	0.33uF 50V J	*
C1161	QETN1CM-476Z	E CAP.	47uF 16V M	*
C1162	QCB31HK-472Z	C CAP.	4700pF 50V K	*
C1164	QDC31HJ-820Z	C CAP.	820pF 50V J	*
C1165-66	QDC31HJ-470Z	C CAP.	470pF 50V J	*
C1167	QDC31HJ-180Z	C CAP.	180pF 50V J	*
C1201	QETN1CM-227Z	E CAP.	220uF 16V M	*
C1202	QETN1CM-107Z	E CAP.	1000uF 16V M	*
C1203	QENC1HM-106Z	BP E CAP.	10uF 50V M	*
C1204-05	QENC1HM-105Z	BP E CAP.	1uF 50V M	*
C1206-07	QENC1HM-106Z	BP E CAP.	10uF 50V M	*
C1208	QETN1CM-477Z	E CAP.	470uF 16V M	*
C1209	QETN1CM-476Z	E CAP.	47uF 16V M	*
C1211-12	QETN1CM-107Z	E CAP.	1000uF 16V M	*
C1213	QCB31HJ-220Z	C CAP.	220pF 50V J	*
C1215-16	QETN1HM-105Z	E CAP.		

Δ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C1696-97	QETN1CH-4762	E CAP.	47μF 16V M	*
C1698	QETN1CH-2272	E CAP.	220μF 16V M	*
C1701	QETN1CH-1082	E CAP.	1000μF 16V M	*
C1702	QC20120-1042	C CAP.	0.1μF 25V Z	*
C1703	QETN1HM-1062	E CAP.	10μF 50V M	*
C1704	QETN1AM-2272	E CAP.	220μF 10V M	*
C1705	QC20120-1042	C CAP.	0.1μF 25V Z	*
C1706	QFLCHU-6832	M CAP.	0.068μF 50V J	*
C1707	QETN1HM-1052	E CAP.	1μF 50V M	*
C1709	QDC31HJ-1802	C CAP.	180pF 50V J	*
C1711	QC20120-1042	C CAP.	0.1μF 25V Z	*
C1712	QETN1AM-1072	E CAP.	100μF 10V M	*
C1713	QC531HJ-2202	C CAP.	220pF 50V J	*
C1714	QCB31HK-1032	C CAP.	0.01μF 50V K	*
C1715	QFLCHU-3332	M CAP.	0.033μF 50V J	*
C1716	QFV71HJ-1042	MF CAP.	0.1μF 50V J	*
C1718	QDC31HJ-1802	C CAP.	180pF 50V J	*
C1720	QCB31HK-1022	C CAP.	1000pF 50V K	*
C1721	QCB31HK-4722	C CAP.	4700pF 50V K	*
C1723	QETN1HM-1052	BP E CAP.	1μF 50V M	*
C1761	QETN1CH-228	E CAP.	2200μF 16V M	*
C1767	QC531HJ-1512	C CAP.	150pF 50V J	*
C1781	QC20120-1042	C CAP.	0.1μF 25V Z	*
C1807	QETN1CH-4762	E CAP.	47μF 16V M	*
C1809	QETN1HM-1062	E CAP.	10μF 50V M	*
C1811	QETN1HM-1062	E CAP.	10μF 50V M	*
C1812	QETN1CH-1072	E CAP.	100μF 10V M	*
C1813	QETN1HM-1062	E CAP.	10μF 50V M	*
C1814-15	QCB31HK-1032	C CAP.	0.01μF 50V K	*
C1816	QETN1HM-2262	E CAP.	22μF 50V M	*
C1817	QCB31HK-1032	C CAP.	0.01μF 50V K	*
C1818	QFLCHU-2232	M CAP.	0.022μF 50V J	*
C1819	QCB31HK-2212	C CAP.	220pF 50V K	*
C1820-21	QDC31HJ-1502	C CAP.	150pF 50V J	*
C1822	QFV71HJ-1042	MF CAP.	0.1μF 50V J	*
C1823-24	QCB31HK-1022	C CAP.	1000pF 50V K	*
C1825	QCB31HK-2212	C CAP.	220pF 50V K	*
C1826	QC20120-1042	C CAP.	0.1μF 25V Z	*
C1827	QETN1AM-4772	E CAP.	470μF 10V M	*
C1828	QC20120-1042	C CAP.	0.1μF 25V Z	*
C1829	QFV71HJ-1042	MF CAP.	0.1μF 50V J	*
C1864-65	QETN1HM-1052	E CAP.	1μF 50V M	*
C1866	QETN1CH-4762	E CAP.	47μF 16V M	*
C1904	QETN1HM-228	E CAP.	2200μF 50V M	*
C1906	QETN1CH-1072	E CAP.	100μF 16V M	*
COIL				
L1001	QQL01BK-2702	COIL	27μH	*
L1002-04	QQL01BK-8R22	COIL	8.2μH	*
L1005	QQL01BK-5R62	COIL	5.6μH	*
L1101-02	QQL01BK-4R72	COIL	4.7μH	*
L1104	QQL01BK-4R72	COIL	4.7μH	*
L1151	QQL01BJ-1802	COIL	18μH	*
L1152	QQL01BJ-2202	COIL	22μH	*
L1601-02	CCLC005-2R5J7	CHOKO COIL		*
L1603	QQL01BK-1002	COIL	10μH	*
L1701-02	QQL01BK-4R72	COIL	4.7μH	*
L1801	QQL01BK-3R32	COIL	3.3μH	*
L1802	QQL01BK-4R72	COIL	4.7μH	*
DIODE				
D1101	1SS133-T2	SI. DIODE		*
D1102-03	MTZJ5.1B-T2	ZENER DIODE		*
D1104-06	1SS133-T2	SI. DIODE		*
D1201	MTZJ4.7A-T2	ZENER DIODE		*

Δ Symbol No.	Part No.	Part Name	Description	Local
DIODE				
D1202-03	1SS133-T2	SI. DIODE		*
D1204	MTZJ10A-T2	ZENER DIODE		*
D1205-06	MTZJ15A-T2	ZENER DIODE		*
D1453	1SS133-T2	SI. DIODE		*
D1501-02	1SS133-T2	SI. DIODE		*
D1611-12	MTZJ33A-T2	ZENER DIODE		*
D1701-02	MA700A-T2	SI. DIODE		*
D1703	MTZJ3.6A-T2	ZENER DIODE		*
D1711	1SS133-T2	SI. DIODE		*
D1714	1SS133-T2	SI. DIODE		*
D1761	1SS133-T2	SI. DIODE		*
D1763	1SS133-T2	SI. DIODE		*
D1765	1SS146-T2	SI. DIODE		*
D1766	1SS133-T2	SI. DIODE		*
D1767-68	MTZJ15A-T2	ZENER DIODE		*
D1801-02	1SS133-T2	SI. DIODE		*
D1862-63	MTZJ15B-T2	ZENER DIODE		*
D1901	R08.2E5/B2/T2	ZENER DIODE		*
D1964	MTZJ5.1B-T2	ZENER DIODE		*
TRANSISTOR				
Q1101	2SC1015/YG-T	SI. TRANSISTOR		*
Q1102	2SC1815/YG-T	SI. TRANSISTOR		*
Q1163	2SC1815/YG-T	SI. TRANSISTOR		*
Q1201-02	2SC1815/YG-T	SI. TRANSISTOR		*
Q1203	2SC1015/YG-T	SI. TRANSISTOR		*
Q1204-05	DTC323T5-T	DIGI. TRANSISTOR		*
Q1206	2SC1815/YG-T	SI. TRANSISTOR		*
Q1207	2SC1015/YG-T	SI. TRANSISTOR		*
Q1208-09	2SC1815/YG-T	SI. TRANSISTOR		*
Q1210-11	DTC323T5-T	DIGI. TRANSISTOR		*
Q1212	2SC1815/YG-T	SI. TRANSISTOR		*
Q1214-15	DTC323T5-T	DIGI. TRANSISTOR		*
Q1451	DTCL24E5-T	DIGI. TRANSISTOR		*
Q1452	2SC1815/YG-T	SI. TRANSISTOR		*
Q1501	2SC1815/YG-T	SI. TRANSISTOR		*
Q1502	2SC1015/YG-T	SI. TRANSISTOR		*
Q1701-02	2SC1815/YG-T	SI. TRANSISTOR		*
Q1703	DTCL44E5A-T	DIGI. TRANSISTOR		*
Q1761	DTCL44E5-T	DIGI. TRANSISTOR		*
Q1762	2SC1015/YG-T	SI. TRANSISTOR		*
Q1763-64	DTC323T5-T	DIGI. TRANSISTOR		*
Q1801	2SC1015/YG-T	SI. TRANSISTOR		*
Q1802	DTCL24E5-T	DIGI. TRANSISTOR		*
Q1806-07	2SC1815/YG-T	SI. TRANSISTOR		*
I.C.				
IC1101	T81227AN	I.C. (DIGI-OTHER)		*
IC1201	TEA6416	I.C. (MONO-ANA)		*
IC1451	MC14538BCP	I.C. (DIGI-MOS)		*
IC1601	HSP3410B-PP-F7	I.C. (DIGI-OTHER)		*
IC1602	BA4558	I.C. (MONO-ANA)		*
IC1611	TDA276M	I.C. (MONO-ANA)		*
IC1701	H37271MF-2525P	I.C.		*
IC1702	L78LROSE-NA	I.C. (MONO-ANA)		*
IC1703	AT24C162BTAEN	I.C.	(SERVICE)	*
IC1781	JLC1562BM	I.C. (DIGI-MOS)		*
IC1801	TC4053BP/N	I.C.		*
IC1802	CF70206	I.C. (DIGI-MOS)		*
IC1803	CF72417	I.C. (DIGI-MOS)		*
OTHERS				
CN1001	QGF1216C1-25	FFC CONNECTOR		*
CN1009	QGB2004P2-25	HQF PLUG		*

Δ Symbol No.	Part No.	Part Name	Description	Local
OTHERS				
EF1601-02	CE42142-103Z	EMI FILTER		*
K1001-04	CE41433-001Z	BEADS CORE		*
TU1001	CEK380-001	TUNER		*
X1101	QAX0305-001Z	CRYSTAL		*
X1601	CE42546-001Z	CRYSTAL		*
X1701	C578.00MTW	CER. RESONATOR		*
X1801	CE41257-001Z	CRYSTAL		*
-----	-----	IF MODULE PMB(As follows)		*
-----	-----	AUTO ASPECT MODULE PMB(As follows)		*
AUTO ASPECT MODULE P.W. BOARD ASS'Y (SMC-W001A(U))				
Δ Symbol No.	Part No.	Part Name	Description	Local
W0001	SMC-W001A(U)	AUTO ASPECT MODULE PMB		*
IF MODULE P.W. BOARD ASS'Y (SJF0F921A-U2)				
Δ Symbol No.	Part No.	Part Name	Description	Local
W01003	SJF0F921A-U2	IF MODULE PMB		*
POWER / DEF P.W. BOARD ASS'Y (SJF-2023A-U2)				
Δ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R2407	QRA14CF-3921Y	MF R	3.92kΩ 1/4W F	*
R2409	QRE141J-331Y	C R	330Ω 1/4W J	*
R2411	QRE141J-101Y	C R	100Ω 1/4W J	*
R2412	QRE141J-471Y	C R	470Ω 1/4W J	*
R2413	QRE141J-103Y	C R	10kΩ 1/4W J	*
R2414	QRX01GJ-2R2	MF R	2.2Ω 1W J	*
R2415	QRE121J-2R7Y	C R	2.7Ω 1/2W J	*
R2416	QRE141J-103Y	C R	10kΩ 1/4W J	*
R2417	QRG01GJ-221	OH R	220Ω 1W J	*
R2418	QRE141J-1R0Y	C R	1.0Ω 1/4W J	*
R2421	QRE141J-272Y	C R	2.7kΩ 1/4W J	*
R2422	QRE141J-563Y	C R	56kΩ 1/4W J	*
R2423	QRE141J-104Y	C R	100kΩ 1/4W J	*
R2424	QRE141J-103Y	C R	10kΩ 1/4W J	*
R2451	QRE141J-124Y	C R	120kΩ 1/4W J	*
R2452	QRE141J-683Y	C R	68kΩ 1/4W J	*
R2453	QRE141J-224Y	C R	220kΩ 1/4W J	*
R2461	QRE141J-102Y	C R	1kΩ 1/4W J	*
R2462	QRE141J-183Y	C R	18kΩ 1/4W J	*
R2463-64	QRE141J-221Y	C R	220Ω 1/4W J	*
R2465	QRE141J-331Y	C R	330Ω 1/4W J	*
R2466	QRJ146J-2R2X	C R	2.2Ω 1/4W J	*
R2467	QRE141J-822Y	C R	8.2kΩ 1/4W J	*
R2468	QRE141J-272Y	C R	2.7kΩ 1/4W J	*

Δ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R2469	QRE141J-222Y	C R	2.2kΩ 1/4W J	*
R2470	QRE141J-472Y	C R	4.7kΩ 1/4W J	*
R2471	QRE141J-102Y	C R	1kΩ 1/4W J	*
R2472-73	QRE141J-333Y	C R	33kΩ 1/4W J	*
R2474	QRA14CF-6201Y	MF R	6.2kΩ 1/4W F	*
R2475	QRE141J-102Y	C R	1kΩ 1/4W J	*
R2480	QRE141J-562Y	C R	5.6kΩ 1/4W J	*
R2481	QRA14CF-1202Y	MF R	12kΩ 1/4W F	*
R2482	QRA14CF-6801Y	MF R	6.8kΩ 1/4W F	*
R2483	QRE141J-183Y	C R	18kΩ 1/4W J	*
R2484	QRE141J-103Y	C R	10kΩ 1/4W J	*
R2485	QRE141J-104Y	C R	100kΩ 1/4W J	*
R2486	QRE141J-183Y	C R	18kΩ 1/4W J	*
R2487	QRE141J-562Y	C R	5.6kΩ 1/4W J	*
R2488	QRE141J-103Y	C R	10kΩ 1/4W J	*
R2489	QRE141J-273Y	C R	27kΩ 1/4W J	*
R2490	QRE141J-123Y	C R	12kΩ 1/4W J	*
R2491	QRE141J-332Y	C R	3.3kΩ 1/4W J	*
R2492	QRE141J-103Y	C R	10kΩ 1/4W J	*
R2493	QRE121J-103Y	C R	10kΩ 1/2W J	*
R2494	QRE121J-222Y	C R	2.2kΩ 1/2W J	*
R2495	QRE121J-183Y	C R	18kΩ 1/2W J	*
R2496	QRL039J-180	OH R	18Ω 3W J	*
R2497-98	QRE141J-102Y	C R	1kΩ 1/4W J	*
R2508	QRE141J-222Y	C R	2.2kΩ 1/4W J	*
R2509	QRE121J-152Y	C R	1.5kΩ 1/2W J	*
R2510	QRG029J-152	OH R	1.5kΩ 2W J	*
R2511	QRG029J-222	OH R	2.2kΩ 2W J	*
R2521	QRE121J-150Y	C R	15Ω 1/2W J	*
R2522	QRG029J-822	OH R	8.2kΩ 2W J	*
R2523	QRE121J-471Y	C R	470Ω 1/2W J	*
R2524	QRE104J-100	UNF R	10 Ω 10W J	*
R2530	QRE121J-124Y	C R	120kΩ 1/2W J	*
R2531	QRE121J-104Y	C R	100kΩ 1/2W J	*
R2532	QRE141J-123Y	C R	12kΩ 1/4W J	*
R2534	QRE121J-104Y	C R	100kΩ 1/2W J	*
R2535	QRE141J-123Y	C R	12kΩ 1/4W J	*
R2536	QRE141J-103Y	C R	10kΩ 1/4W J	*
R2537-38	QRE121J-152Y	C R	1.5kΩ 1/2W J	*
R2539	QRE141J-103Y	C R	10kΩ 1/4W J	*
R2540-41	QRE141J-273Y	C R	27kΩ 1/4W J	*
R2556	QRE141J-822Y	C R	8.2kΩ 1/4W J	*
R2557	QRE141J-562Y	C R	5.6kΩ 1/4W J	*
R2561	QRE141J-103Y	C R	10kΩ 1/4W J	*
R2562	QRE141J-393Y	C R	39kΩ 1/4W J	*
R2571	QRE121J-682Y	C R	6.8kΩ 1/2W J	*
R2575	QRE141J-391Y	C R	390Ω 1/4W J	*
R2576	QRE141J-183Y	C R	18kΩ 1/4W J	*
R2577	QRE141J-222Y	C R	2.2kΩ 1/4W J	*
R2584	QRE141J-273Y	C R	27kΩ 1/4W J	*
R2585	QRA14CF-3011Y	MF R	3.01kΩ 1/4W F	*
R2586	QRA14CF-1582Y	MF R	15.8kΩ 1/4W F	*
R2601	QRJ104K-3R9	UNF R	3.9 Ω 10W K	*
R2602-03	QRJ121J-474Y	C R	470kΩ 1/2W J	*
R2604	QRG039J-333	OH R	33kΩ 3W J	*
R2605	QRG039J-473	OH R	47kΩ 3W J	*
R2606	QRW059J-R22	MP R	0.22 Ω 5W J	*
R2607	QRE121J-102Y	C R	1kΩ 1/2W J	*
R2608	QRE141J-273Y	C R	27kΩ 1/4W J	*
R2610	QRE141J-102Y	C R	1kΩ 1/4W J	*
R2611	QRE141J-682Y	C R	6.8kΩ 1/4W J	*
R2614	QRE121J-470Y	C R	47Ω 1/2W J	*
R2615	QRE141J-181Y	C R	180Ω 1/4W J	*
R2616	QRE141J-102Y	C R	1kΩ 1/4W J	*
R2617	QRE141J-103Y	C R	10kΩ 1/4W J	*
R2618	QRE141J-392Y	C R	3.9kΩ 1/4W J	*
R2619	QRE141J-103Y	C R	10kΩ 1/4W J	*

Symbol No.	Part No.	Part Name	Description	Local
<b>CAPACITOR</b>				
R2920	QRE141J-682Y	C R	6.8kΩ 1/4W J *	
R2921	QRE141J-224Y	C R	220kΩ 1/4W J *	
R2931	QRE121J-331Y	C R	330Ω 1/2W J *	
R2951	QF074J-102	UMF R	1kΩ 7W J *	
R2953	QRO01G-330	OM R	330Ω 1W J *	
R2954	QRL029J-120	OM R	120Ω 2W J *	
R2955	QRL029J-100	OM R	100Ω 2W J *	
R2956	QRE141J-103Y	C R	10kΩ 1/4W J *	
R2957	QRE141J-473Y	C R	47kΩ 1/4W J *	
R2958	QRL029J-473	OM R	47kΩ 2W J *	
R2959	QRE141J-562Y	C R	5.6kΩ 1/4W J *	
R2967	QRO029J-223	OM R	22kΩ 2W J *	
R2968	QRE141J-102Y	C R	1kΩ 1/4W J *	
R2969	QRE141J-120Y	C R	120Ω 1/4W J *	
R2970	QRE141J-153Y	C R	15kΩ 1/4W J *	
R2971	QRE141J-470Y	C R	470Ω 1/4W J *	
R2972	QRE141J-183Y	C R	18kΩ 1/4W J *	
R2981	QRE121J-101Y	C R	100Ω 1/2W J *	
R2982	QRE141J-122Y	C R	1.2kΩ 1/4W J *	
R2983	QRE141J-104Y	C R	100kΩ 1/4W J *	
R2984	QRE141J-102Y	C R	1kΩ 1/4W J *	
R2985	QRE141J-104Y	C R	100kΩ 1/4W J *	
R2986	QRE141J-103Y	C R	10kΩ 1/4W J *	
R2991	QZ0057-825	C R	8.2MΩ 1W J *	
C2401	QETN1CH-1072	E CAP.	100pF 16V H *	
C2402	QFLC1JH-1522	M CAP.	1500pF 50V J *	
C2403	QF074JH-108	E CAP.	1000pF 35V H *	
C2404	QETN1CH-1072	E CAP.	1000pF 35V H *	
C2405	QETN1CH-1052	E CAP.	100pF 50V H *	
C2406	QCS31JH-1802	C CAP.	180pF 50V J *	
C2407-08	QFLC1JH-1042	M CAP.	0.1μF 50V J *	
C2409	QFLC2AJ-3932	M CAP.	0.039μF 100V J *	
C2410	QFLC2AJ-5632	M CAP.	0.056μF 100V J *	
C2411-12	QCB31JH-2212	C CAP.	220pF 50V K *	
C2413	QF072JH-1542	MF CAP.	0.15μF 50V J *	
C2415	QETN1CH-1062	E CAP.	100pF 50V H *	
C2451	QCS31JH-6802	C CAP.	680pF 50V J *	
C2452	QCS31JH-1212	C CAP.	120pF 50V J *	
C2453	QETN1CH-1072	E CAP.	100pF 16V H *	
C2462	QF073JH-273	PP CAP.	0.027μF 50V G *	
C2463	QENG1KH-2252	E CAP.	2.2μF 25V K *	
C2464	QF077JH-1842	MF CAP.	0.18μF 50V J *	
C2465	QF077JH-9232	MF CAP.	0.082μF 50V J *	
C2466	QETN1CH-1082	E CAP.	1000pF 16V H *	
C2467	QZ0120-1042	C CAP.	0.1μF 25V Z *	
C2468	QFLC1JH-1032	M CAP.	0.01μF 50V J *	
C2469	QFLC1JH-3932	M CAP.	0.039μF 50V J *	
C2470	QENG1KH-4752	E CAP.	4.7μF 50V K *	
C2480	QFLC1JH-2732	M CAP.	0.027μF 50V J *	
C2481	QETN1CH-1062	E CAP.	100pF 50V H *	
C2482	QETN1CH-1052	E CAP.	1μF 50V H *	
C2483	QCB31JH-1032	C CAP.	0.01μF 50V K *	
C2484	QFLC1JH-1232	M CAP.	0.012μF 50V J *	
C2485	QZ0120-1042	C CAP.	0.1μF 25V Z *	
C2486	QETN1CH-2272	E CAP.	220pF 16V H *	
C2509	QCB31JH-1022	C CAP.	1000pF 50V K *	
C2510	QENG2KH-1052	E CAP.	1μF 160V H *	
C2521	QF07122-272	MPP CAP.	2700pF 1.8KVH ±3% *	
C2522	QF07117-1302	MPP CAP.	0.013μF 1.4KVH ±2.5% *	
C2523	QF07263-273	PP CAP.	0.027μF 400V J *	
C2524-25	QF07119-624	MPP CAP.	0.62μF 200V ±3% *	
C2526	QETN1CH-4752	E CAP.	4.7μF 250V H *	
C2527	QCB31JH-5612	C CAP.	560pF 500V K *	
C2528	QETN1CH-227	E CAP.	220pF 160V H *	
C2529	QZ0120-393	MPP CAP.	0.039μF 400V ±3% *	
C2531	QZ0119-224	MPP CAP.	0.22μF 200V ±3% *	
C2532	QZ0119-354	MPP CAP.	0.35μF 200V ±3% *	
C2534	QF0720K-583	M CAP.	0.068μF 200V K *	

Symbol No.	Part No.	Part Name	Description	Local
<b>CAPACITOR</b>				
C2536	QFLC1JH-1222	M CAP.	1200pF 50V J *	
C2553-54	QETN1CH-1082	E CAP.	1000pF 25V H *	
C2555	QETN1CH-1062	E CAP.	100pF 250V H *	
C2556	QF077JH-1042	MF CAP.	0.1μF 50V J *	
C2561	QCS31JH-5602	C CAP.	560pF 50V J *	
C2571	QETN1CH-1072	E CAP.	100pF 6.3V H *	
C2572	QETN1CH-4762	E CAP.	47μF 16V H *	
C2581	QETN1CH-2272	E CAP.	220pF 10V H *	
C2582	QETN1CH-1062	E CAP.	100pF 100V H *	
C2583	QENG1KH-1052	BP E CAP.	1μF 50V H *	
Δ C2902	QCB3086-472	C CAP.	4700pFAC250V H *	
Δ C2903	QCB3086-472	C CAP.	4700pFAC250V H *	
Δ C2904	QCB3086-472	C CAP.	4700pFAC250V H *	
Δ C2905	QETN1CH-227	E CAP.	220pF 385V H *	
Δ C2907	QCB32HK-103	C CAP.	0.01μF 500V K *	
C2908	QZ0122-391	C CAP.	390pF 2000V K *	
C2910	QZ0122-151	C CAP.	150pF 2000V K *	
C2911	QZ0122-221	C CAP.	220pF 2000V K *	
C2915	QETN1CH-1072	E CAP.	100pF 25V H *	
C2916	QCS31JH-1012	C CAP.	100pF 50V J *	
C2917	QFLC1JH-1022	M CAP.	1000pF 50V J *	
C2918	QFLC1JH-1042	M CAP.	0.1μF 50V J *	
C2919	QCB31JH-1022	C CAP.	1000pF 50V K *	
C2920	QETN1CH-1052	E CAP.	1μF 50V H *	
C2921	QFLC1JH-3922	M CAP.	3900pF 50V J *	
Δ C2934	QF29040-473	MF CAP.	0.047μFAC250V H *	
C2951	QZ0122-221	C CAP.	220pF 2000V K *	
C2952-53	QZ0132-1022	C CAP.	1000pF 500V K *	
C2954	QCS31JH-1012	C CAP.	100pF 50V J *	
C2957	QCB32HK-3912	C CAP.	390pF 500V K *	
C2958	QZ0203-227	E CAP.	220pF 160V H *	
C2959	QZ0257-228	E CAP.	220pF 25V H *	
C2960	QZ0256-128	E CAP.	1200pF 10V H *	
C2961	QZ0257-228	E CAP.	2200pF 25V H *	
C2962	QCB31JH-108	E CAP.	1000pF 35V H *	
C2964-66	QZ0120-1042	C CAP.	0.1μF 25V Z *	
C2967	QETN1CH-2272	E CAP.	220pF 10V H *	
C2968	QENG1KH-1082	E CAP.	1000pF 10V H *	
C2969	QETN1CH-2272	E CAP.	220pF 16V H *	
C2970	QCB32HK-3922	C CAP.	3900pF 500V K *	
C2971-72	QF077JH-1042	MF CAP.	0.1μF 50V J *	
C2976	QETN1CH-2272	E CAP.	220pF 16V H *	
C2981	QETN1CH-2272	E CAP.	220pF 10V H *	
Δ C2992	QZ0041-471	C CAP.	470pFAC400V K *	
Δ C2993	QZ0041-332	C CAP.	330pFAC400V H *	
<b>TRANSFORMER</b>				
T2501	CE42034-002	H.DRIVE TRANSF.		
T2521	CE42549-001J1	BRIDGE COIL		
Δ T2901	CET5087-001J4	SN TRANSF.		
<b>COIL</b>				
L2461	CE42567-002J1	INJECTION COIL		
L2521	CELL011-002J1	LINEARITY COIL		
L2522	CE42693-001J1	CHOKE COIL		
L2551	QZL2018-760	HEATER CHOKE		
L2901	QZL424N-2872	COIL	2.7μH *	
L2931	QZL401K-1002	CHOKE COIL		
L2951	QZL2018-460	HEATER CHOKE		
<b>DIODE</b>				
D2402	1N4003-72	SI DIODE		
D2404	MTZ19-1C-T2	ZENER DIODE		

Symbol No.	Part No.	Part Name	Description	Local
<b>DIODE</b>				
D2405	1SS133-T2	SI DIODE		
D2406	MTZ12C-T2	ZENER DIODE		
D2407	1SS133-T2	SI DIODE		
D2481	MTZ13-9B-T2	ZENER DIODE		
D2482	MTZ12C-T2	ZENER DIODE		
D2465-66	MTZ12C-T2	ZENER DIODE		
D2521	BY228-20	SI DIODE		
D2522	BYW95C-20	SI DIODE		
D2523	BY033G-T3	SI DIODE		
D2524	BY228-20	SI DIODE		
D2551-52	BYW95B-20	SI DIODE		
D2553-55	BY033G-T3	SI DIODE		
D2561	MTZ13(B)-T2	ZENER DIODE		
D2562	1SS133-T2	SI DIODE		
D2575	MTZ17-5B-T2	ZENER DIODE		
D2576	MTZ15B-T2	ZENER DIODE		
D2582	MA4068N/Z1-T2	ZENER DIODE		
D2583	BY033D-T3	SI DIODE		
Δ D2901	D358A60	DIODE BRIDGE		
D2902	BY033M-T3	SI DIODE		
D2904	BY033D-T3	SI DIODE		
D2951	RU48-F1	SI DIODE		
D2952	BY033M-T3	SI DIODE		
D2953	BY033G-T3	SI DIODE		
D2954-56	BYW95B-20	SI DIODE		
D2957	1SS146-T2	SI DIODE		
D2958	MTZ17-5B-T2	ZENER DIODE		
D2960	MC222-6	THYRISTOR		
D2961	MTZ15B-T2	ZENER DIODE		
D2963	MTZ133B-T2	ZENER DIODE		
D2965	BY033D-T3	SI DIODE		
D2966	MTZ17-5C-T2	ZENER DIODE		
D2981-86	1SS133-T2	SI DIODE		
<b>TRANSISTOR</b>				
Q2461-65	Z5C1815/YG/-T	SI TRANSISTOR		
Q2466	Z5D1408/OY/-LB	SI TRANSISTOR		
Q2467	Z5C1815/YG/-T	SI TRANSISTOR		
Q2501	BSN274	F.E.T.		
Δ Q2521	BH2508AX	POWER TRANSISTOR	H. OUT	
Q2531-32	IRF620	F.E.T.		
Q2533-35	DTL124ES-T	DIGI. TRANSISTOR		
Q2536	IRF620	F.E.T.		
Q2537	DTL124ESA-T	DIGI. TRANSISTOR		
Q2561	Z5C1015/YG/-T	SI TRANSISTOR		
Q2571	Z5A949/Y1Z1-T	SI TRANSISTOR		
Q2572	DTL124ESA-T	DIGI. TRANSISTOR		
Q2573	Z5C1815/YG/-T	SI TRANSISTOR		
Q2901	MTA4060	F.E.T.		
Q2951	Z5C1815/YG/-T	SI TRANSISTOR		
Q2952	Z5C2240/GL/-T	SI TRANSISTOR		
Q2953	DTL124ES-T	DIGI. TRANSISTOR		
Q2981-82	Z5C1815/YG/-T	SI TRANSISTOR		
<b>IC</b>				
IC2401	LA7841	I.C. (MONO-ANA)		
IC2461	TA8739P	I.C. (MONO-ANA)		
IC2462	BA15218N	I.C. (MONO-ANA)		
IC2531-32	TL0621(B)	I.C. (PH. COUPLER)		
IC2901	MC44604P	I.C. (MONO-ANA)		
Δ IC2902	TL0721F (D4-GR)	I.C. (PH. COUPLER)		
IC2951	AN7812P	I.C. (MONO-ANA)		
IC2952	AN7809P	I.C. (MONO-ANA)		
IC2953	AN7705F	I.C.		
IC2954	SE135N	I.C. (HYBRID)		

△ Symbol No.	Part No.	Part Name	Description	Local
OTHERS				
△ CP2952	ICP-W50-Y	I.C. PROTECT		*
△ CP2953	ICP-W50-Y	I.C. PROTECT		*
△ FR2551	QR29017-487	FUSI. RESISTOR	4.7 Ω 1/4W J	*
△ FR2552	QR29021-180	FUSI. RESISTOR	1 Ω 1W J	*
△ FR2553	QR29021-180	FUSI. RESISTOR	1 Ω 1W J	*
△ FR2953	QR29022-882	FUSI. RESISTOR	0.82 Ω 1W K	*
X2401	CE41433-001Z	BEADS CORE		*
X2521	CE41433-001Z	BEADS CORE		*
X2901-02	CE42050-001Z	CORE		*
X2951	CE41433-001Z	BEADS CORE		*
△ RY2901	CE50028-002	RELAY		*
△ TH2901	CEK002-003	W.P.THERMISTOR		*

CRT SOCKET P.W. BOARD ASS'Y

(SJF-3022A-U2)

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R3101-06	NRS402J-101X	MG R	100Ω 1/10W J	*
R3107	QRN141J-221Y	C R	220Ω 1/4W J	*
R3108	NRS402J-470X	MG R	47Ω 1/10W J	*
R3109	QRN141J-221Y	C R	220Ω 1/4W J	*
R3110	NRS402J-470X	MG R	47Ω 1/10W J	*
R3112	QRN141J-221Y	C R	220Ω 1/4W J	*
R3113	QRL029J-153	OM R	15kΩ 2W J	*
R3114	QRL029J-183	OM R	18kΩ 2W J	*
R3115-16	QRL029J-153	OM R	15kΩ 2W J	*
R3117	QRL029J-183	OM R	18kΩ 2W J	*
R3118-20	QR20107-102Z	C R	1kΩ 1/2W K	*
R3121	NRS402J-102X	MG R	1kΩ 1/10W J	*
R3122	NRS402J-472X	MG R	4.7kΩ 1/10W J	*
R3124	QRL029J-183	OM R	18kΩ 2W J	*
R3125	QRN141J-474Y	C R	470kΩ 1/4W J	*
R3126	QRE121J-101Y	C R	100Ω 1/2W J	*
R3127	NRS402J-470X	MG R	47Ω 1/10W J	*
R3128	NRS402J-101X	MG R	100Ω 1/10W J	*
R3131	QR20107-474Z	C R	470kΩ 1W K	*
R3132-34	NRS402J-272X	MG R	2.7kΩ 1/10W J	*
R3165	NRS402J-080X	MG R	0.08Ω 1/10W J	*
R3301	NRS402J-153X	MG R	15kΩ 1/10W J	*
R3302	NRS402J-272X	MG R	2.7kΩ 1/10W J	*
R3303	NRS402J-152X	MG R	1.5kΩ 1/10W J	*
R3304	NRS402J-820X	MG R	82Ω 1/10W J	*
R3305	NRS402J-221X	MG R	220Ω 1/10W J	*
R3306	QRN141J-100Y	C R	10Ω 1/4W J	*
R3307-08	NRS402J-470X	MG R	47Ω 1/10W J	*
R3309	QRE121J-821Y	C R	820Ω 1/2W J	*
R3310-11	QRN141J-563Y	C R	56kΩ 1/4W J	*
R3312	QRE121J-821Y	C R	820Ω 1/2W J	*
R3313	QRN141J-390Y	C R	39Ω 1/4W J	*
R3314-15	QRN141J-287Y	C R	2.7Ω 1/4W J	*
R3316	QRN141J-390Y	C R	39Ω 1/4W J	*
R3317	QRN141J-121Y	C R	120Ω 1/4W J	*
R3318	QRL029J-391	OM R	390Ω 2W J	*
R3320	NRS402J-561X	MG R	560Ω 1/10W J	*

CAPACITOR

C3101-02	NDC218J-151X	C CAP.	150pF 50V J	*
C3103	NDC218J-181X	C CAP.	180pF 50V J	*
C3104	OETN1CM-107Z	E CAP.	100pF 16V H	*

Δ Symbol No. Part No. Part Name Description Local

## CAPACITOR

C3105	QETN1CH-476Z	E CAP.	47pF 16V H	*
C3106	NCF21E2-104X	C CAP.	0.1pF 25V Z	*
C3108	QC331HJ-560Z	C CAP.	56pF 50V J	*
C3113	QC20324-10Z	C CAP.	1000pF 3000V P	*
C3121	QETN1HM-106Z	E CAP.	10pF 50V H	*
C3123	QETN1HM-336	E CAP.	33pF 250V M	*
C3125	NCR21HK-103X	C CAP.	0.01pF 50V K	*
C3301	QE20373-106Z	E CAP.	10pF 160V H	*
C3302	QETN1CH-107Z	E CAP.	100pF 16V H	*
C3303	QFLC1HJ-183Z	M CAP.	0.01pF 50V J	*
C3304	QETN1HM-335Z	E CAP.	3.3pF 50V M	*
C3305	NDC21HJ-580X	C CAP.	5.0pF 50V J	*
C3306	NDC21HJ-681X	C CAP.	680pF 50V J	*
C3307	QC832HK-472Z	C CAP.	4700pF 500V K	*
C3308	NDC21HJ-221X	C CAP.	220pF 50V J	*
C3309	QC832HK-472Z	C CAP.	4700pF 500V K	*
C3310	QE20373-106Z	E CAP.	10pF 160V H	*
C3311	QETN1CH-107Z	E CAP.	100pF 16V H	*
C3312	QETN1HM-107Z	E CAP.	100pF 10V H	*
C3313	QETN1CH-337Z	E CAP.	330pF 16V H	*

## COIL

E3101-03	QQL018K-181Z	COIL	180pH	*
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## DIODE

D3121	DAN202K-X	DIODE ARRAY		*
D3123	MA3068/M-X	ZENER DIODE		*
D3125-26	DAN202K-X	DIODE ARRAY		*
D3301-02	RH15-T3	SI. DIODE		*

## TRANSISTOR

Q3101-03	2SC1815/YG/-T	SI. TRANSISTOR		*
Q3104-06	2SC4544-LB	SI. TRANSISTOR		*
Q3153	2SC1815/YG/-T	SI. TRANSISTOR		*
Q3154	2SC1015/YG/-T	SI. TRANSISTOR		*
Q3301-02	2SC1815/YG/-T	SI. TRANSISTOR		*
Q3303	2SC1015/YG/-T	SI. TRANSISTOR		*
Q3304	2SA1837	SI. TRANSISTOR		*
Q3305	2SC4793	SI. TRANSISTOR		*

## OTHERS

Δ FR3319	QR29021-561	FUS1. RESISTOR	560 Ω 1W J	*
K3001	CE41433-001Z	BEADS CORE		*
K3301-04	CE41492-001Z	CHOKE COIL		*
Δ SK3001	CE42446-001	C. R. T. SOCKET		*
M3009-12	NRS402J-OROX	MG R	0.00 1/10W J	*
W3014	NRS402J-OROX	MG R	0.00 1/10W J	*
Y3107	NRS402J-OROX	MG R	0.00 1/10W J	*

FRONT CONTROL P.W. BOARD ASS'Y  
(SJF-8023A-U2)

Δ Symbol No. Part No. Part Name Description Local

## RESISTOR

R8001-02	QRN141J-271Y	C R	270Ω 1/4W J	*
R8003	NRS402J-222X	MG R	2.2kΩ 1/10W J	*
R8004	NRS402J-472X	MG R	4.7kΩ 1/10W J	*
R8005-06	NRS402J-561X	MG R	560Ω 1/10W J	*
R8007	NRS402J-103X	MG R	10kΩ 1/10W J	*
R8008	NRS402J-682X	MG R	6.8kΩ 1/10W J	*
R8009	NRS402J-OROX	MG R	0.00 1/10W J	*
R8010	NRS402J-332X	MG R	3.3kΩ 1/10W J	*
R8012	NRS402J-103X	MG R	10kΩ 1/10W J	*
R8013	NRS402J-472X	MG R	4.7kΩ 1/10W J	*
R8015-16	NRS402J-102X	MG R	1kΩ 1/10W J	*
R8017	NRS402J-750X	MG R	750 Ω 1/10W J	*
R8020-21	NRS402J-471X	MG R	470Ω 1/10W J	*
R8022	NRS402J-821X	MG R	820Ω 1/10W J	*
R8023-24	NRS402J-750X	MG R	750 Ω 1/10W J	*
R8025	NRS402J-562X	MG R	5.6kΩ 1/10W J	*
Δ R8905	QR20111-474	C R	470kΩ 1/2W K	*

## CAPACITOR

C8001-02	NCR21HK-222X	C CAP.	2200pF 50V K	*
C8003	QETN1HM-106Z	E CAP.	10pF 50V H	*
C8004	NCF21E2-104X	C CAP.	0.1pF 25V Z	*
C8005	QETN1CH-107Z	E CAP.	100pF 16V H	*
C8006-07	QE20446-108	E CAP.	1000pF 35V M	*
C8010-11	NCR21HK-472X	C CAP.	4700pF 50V K	*
C8012	QE20320-104Z	C CAP.	0.1pF 25V Z	*
C8473	QETN1HM-476Z	E CAP.	47pF 50V H	*
C8474	QETN1HM-474Z	E CAP.	0.47pF 50V H	*
Δ C8901	QF29040-474	HF CAP.	0.47pFAC275V H	*

## COIL

L8001	CE41832-001	LEAD CORE		*
L8002-03	QQL211K-586Y	COIL	5.6pH	*
L8010-11	QQL211K-270Y	COIL	27pH	*
L8012	CE41832-001	LEAD CORE		*

## DIODE

D8007	P1241-04	C. D. S.		*
D8008	DAN202K-X	DIODE ARRAY		*
D8009	SLR-342MG-T16	L. E. D. (GRN)		*
D8010	SPR-35WAF	L. E. D.		*
D8012	SLR-3420U-T16	L. E. D. (ORG)		*
D8013	MA3068/M-X	ZENER DIODE		*
D8014	SLR-342TY-T16	L. E. D. (YLM)		*
D8015	MA152NK-X	SI. DIODE		*

## TRANSISTOR

Q8001	2SA1162/YG/-X	SI. TRANSISTOR		*
Q8002-03	DTA144TSA-T	DIGI. TRANSISTOR		*
Q8005-07	2SC1015/YG/-T	SI. TRANSISTOR		*

## IC

IC8001	GP1U281Q	IFR DETECT UNIT		*
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## OTHERS

CN8001	CN36548-001-E	L. E. D. HOLDER		*
	CN35921-A04-H	CDS HOLDER		*
	QGF216C1-25	FFC CONNECTOR		*

AV TERMINAL P.W. BOARD ASS'Y  
(SJF0J022A-U2)

Δ Symbol No. Part No. Part Name Description Local

## RESISTOR

R0102-03	NRS402J-750X	MG R	750 Ω 1/10W J	*
R0104	NRS402J-OROX	MG R	0.00 1/10W J	*
R0105	NRS402J-750X	MG R	750 Ω 1/10W J	*
R0107	NRS402J-OROX	MG R	0.00 1/10W J	*
R0108	NRS402J-750X	MG R	750 Ω 1/10W J	*
R0110	NRS402J-OROX	MG R	0.00 1/10W J	*
R0111-12	NRS402J-823X	MG R	82kΩ 1/10W J	*
R0113	NRS402J-OROX	MG R	0.00 1/10W J	*
R0202	NRS402J-750X	MG R	750 Ω 1/10W J	*
R0203	NRS402J-OROX	MG R	0.00 1/10W J	*
R0204	NRS402J-823X	MG R	82kΩ 1/10W J	*
R0205	NRS402J-OROX	MG R	0.00 1/10W J	*
R0206	NRS402J-823X	MG R	82kΩ 1/10W J	*

## CAPACITOR

C0102	QETN1CH-477Z	E CAP.	470pF 16V H	*
C0103-05	QETN1HM-106Z	E CAP.	10pF 50V H	*
C0106	QETN1HM-105Z	E CAP.	1pF 50V M	*
C0107	NCR21HK-472X	C CAP.	4700pF 50V K	*
C0108	QETN1HM-105Z	E CAP.	1pF 50V M	*
C0109	NCR21HK-472X	C CAP.	4700pF 50V K	*
C0202	QETN1CH-477Z	E CAP.	470pF 16V H	*
C0203	QFLC1HJ-103Z	M CAP.	0.01pF 50V J	*
C0204-05	QETN1HM-105Z	E CAP.	1pF 50V M	*
C0206-07	NCR21HK-472X	C CAP.	4700pF 50V K	*

## COIL

L0101-04	QQL211K-586Y	COIL	5.6pH	*
L0105	CE41832-001	LEAD CORE		*
L0201-04	QQL211K-586Y	COIL	5.6pH	*
L0205	CE41832-001	LEAD CORE		*

## OTHERS

CN0008	CHA401R-15R-J	HQF CONNECTOR		*
CN0009	QGB2004N1-25	HQF CONNECTOR		*
J0001-02	CE40529-006	SCART CONNECTOR		*

AV-28WT4EK  
AV-28WT4EKS

## AV-28WT4EN / AV-28WT4ENS

## PRINTED WIRING BOARD PARTS LIST

## MAIN P.W. BOARD ASS'Y (SJF-1023A-U2)

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1001	QRK126J-474X	C R	470KΩ 1/2W J *	
R1002	QRE141J-104Y	C R	100KΩ 1/4W J *	
R1003-06	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1001-02	QRE141J-391Y	C R	390Ω 1/4W J *	
R1003-04	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1005	QRE141J-562Y	C R	5.6KΩ 1/4W J *	
R1006	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1007	QRE141J-561Y	C R	560Ω 1/4W J *	
R1008	QRE141J-224Y	C R	220KΩ 1/4W J *	
R1009	QRE141J-273Y	C R	27KΩ 1/4W J *	
R1010	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1011	QRE141J-472Y	C R	4.7KΩ 1/4W J *	
R1012-14	QRE141J-101Y	C R	100Ω 1/4W J *	
R1015-18	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1019	QRE141J-333Y	C R	33KΩ 1/4W J *	
R1020	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1021	QRE141J-472Y	C R	4.7KΩ 1/4W J *	
R1022	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1023	QRE141J-471Y	C R	470Ω 1/4W J *	
R1025	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1026	QRE141J-681Y	C R	680Ω 1/4W J *	
R1027	QRE141J-123Y	C R	12KΩ 1/4W J *	
R1028	QRE141J-123Y	C R	12KΩ 1/4W J *	
R1029	QRE141J-561Y	C R	560Ω 1/4W J *	
R1201	QRE141J-750Y	C R	75Ω 1/4W J *	
R1202	QRJ146J-271X	C R	270Ω 1/4W J *	
R1203	QRE141J-101Y	C R	100Ω 1/4W J *	
R1204	QRG01GJ-101	OM R	100Ω 1W J *	
R1205	QRE141J-101Y	C R	100Ω 1/4W J *	
R1206	QRE141J-331Y	C R	330Ω 1/4W J *	
R1208	QRE141J-472Y	C R	4.7KΩ 1/4W J *	
R1209	QRE141J-152Y	C R	1.5KΩ 1/4W J *	
R1210	QRE141J-101Y	C R	100Ω 1/4W J *	
R1211	QRE141J-822Y	C R	8.2KΩ 1/4W J *	
R1212	QRE141J-101Y	C R	100Ω 1/4W J *	
R1213	QRE141J-682Y	C R	6.8KΩ 1/4W J *	
R1214-15	QRE141J-471Y	C R	470Ω 1/4W J *	
R1218-19	QRE141J-391Y	C R	390Ω 1/4W J *	
R1220-21	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1222	QRE141J-221Y	C R	220Ω 1/4W J *	
R1223	QRE141J-750Y	C R	75Ω 1/4W J *	
R1224	QRE141J-331Y	C R	330Ω 1/4W J *	
R1225	QRE141J-151Y	C R	150Ω 1/4W J *	
R1226	QRE141J-101Y	C R	100Ω 1/4W J *	
R1228	QRE141J-182Y	C R	1.8KΩ 1/4W J *	
R1229	QRE141J-273Y	C R	27KΩ 1/4W J *	
R1230	QRE141J-393Y	C R	39KΩ 1/4W J *	
R1231	QRE141J-182Y	C R	1.8KΩ 1/4W J *	
R1232	QRG01GJ-101	OM R	100Ω 1W J *	
R1233-34	QRE141J-152Y	C R	1.5KΩ 1/4W J *	
R1235-36	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1237-38	QRE141J-471Y	C R	470Ω 1/4W J *	
R1242	QRE141J-823Y	C R	82KΩ 1/4W J *	
R1243	QRE141J-391Y	C R	390Ω 1/4W J *	
R1245	QRE141J-823Y	C R	82KΩ 1/4W J *	
R1246	QRE141J-391Y	C R	390Ω 1/4W J *	
R1247-48	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1249	QRE141J-221Y	C R	220Ω 1/4W J *	
R1252	QR29017-470	FUS1 RESISTOR	47 Ω 1/4W J *	
R1253	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1254-55	QRE141J-183Y	C R	18KΩ 1/4W J *	

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1256	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1257	QRE141J-222Y	C R	2.2KΩ 1/4W J *	
R1260-61	QRE141J-750Y	C R	75Ω 1/4W J *	
R1262-63	QRE141J-101Y	C R	100Ω 1/4W J *	
R1264	QRE141J-561Y	C R	560Ω 1/4W J *	
R1268	QRE141J-221Y	C R	220Ω 1/4W J *	
R1401-02	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1403	QRE141J-682Y	C R	6.8KΩ 1/4W J *	
R1404	QRE141J-183Y	C R	18KΩ 1/4W J *	
R1405	QRE141J-223Y	C R	22KΩ 1/4W J *	
R1406	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1451	QRE141J-104Y	C R	100KΩ 1/4W J *	
R1452	QRE141J-153Y	C R	15KΩ 1/4W J *	
R1453	QRE141J-333Y	C R	33KΩ 1/4W J *	
R1455	QRE141J-184Y	C R	180KΩ 1/4W J *	
R1456	QRE141J-562Y	C R	5.6KΩ 1/4W J *	
R1457	QRE141J-223Y	C R	22KΩ 1/4W J *	
R1458	QRE141J-104Y	C R	100KΩ 1/4W J *	
R1501	QRE141J-621Y	C R	620Ω 1/4W J *	
R1503	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1504	QRE141J-104Y	C R	100KΩ 1/4W J *	
R1506	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1508	QRE141J-682Y	C R	6.8KΩ 1/4W J *	
R1509	QRE141J-123Y	C R	12KΩ 1/4W J *	
R1510	QRE141J-392Y	C R	3.9KΩ 1/4W J *	
R1511	QRE141J-392Y	C R	3.9KΩ 1/4W J *	
R1601-02	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1603	QRE141J-182Y	C R	1.8KΩ 1/4W J *	
R1604	QRE141J-333Y	C R	33KΩ 1/4W J *	
R1605	QRE141J-182Y	C R	1.8KΩ 1/4W J *	
R1606	QRE141J-333Y	C R	33KΩ 1/4W J *	
R1607-08	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1681-82	QRE141J-101Y	C R	100Ω 1/4W J *	
R1683-84	QRE141J-470Y	C R	47Ω 1/4W J *	
R1685-86	QRE141J-152Y	C R	1.5KΩ 1/4W J *	
R1687-88	QRJ146J-2R2X	C R	2.2Ω 1/4W J *	
R1691	QRE141J-122Y	C R	1.2KΩ 1/4W J *	
R1693-94	QRE141J-104Y	C R	100KΩ 1/4W J *	
R1695	QRE141J-331Y	C R	330Ω 1/4W J *	
R1701	QRB049J-472	NET.R	4.7KΩ	
R1702	QRB069J-103	NET.R	10KΩ	
R1703-04	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1705	QRE141J-331Y	C R	330Ω 1/4W J *	
R1706	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1707	QRE141J-331Y	C R	330Ω 1/4W J *	
R1708	QRE141J-274Y	C R	270KΩ 1/4W J *	
R1709-12	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1713-20	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1721	QRE141J-104Y	C R	100KΩ 1/4W J *	
R1722	QRE141J-221Y	C R	220Ω 1/4W J *	
R1723	QRE141J-101Y	C R	100Ω 1/4W J *	
R1724-29	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1730-34	QRE141J-472Y	C R	4.7KΩ 1/4W J *	
R1735-37	QRE141J-152Y	C R	1.5KΩ 1/4W J *	
R1738	QRE141J-563Y	C R	56KΩ 1/4W J *	
R1739	QRE141J-562Y	C R	5.6KΩ 1/4W J *	
R1740	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1741	QRE141J-223Y	C R	22KΩ 1/4W J *	
R1742	QRE141J-153Y	C R	15KΩ 1/4W J *	
R1743	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1744	QRE141J-562Y	C R	5.6KΩ 1/4W J *	

Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1745	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1746	QRE141J-682Y	C R	6.8KΩ 1/4W J *	
R1747	QRE141J-823Y	C R	82KΩ 1/4W J *	
R1749	QRE141J-682Y	C R	6.8KΩ 1/4W J *	
R1759	QRE141J-103Y	C R	10KΩ 1/4W J *	
R1760	QRE141J-472Y	C R	4.7KΩ 1/4W J *	
R1761	QRE141J-473Y	C R	47KΩ 1/4W J *	
R1762-64	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1766	QRE141J-104Y	C R	100KΩ 1/4W J *	
R1767	QRE141J-473Y	C R	47KΩ 1/4W J *	
R1770	QRE141J-222Y	C R	2.2KΩ 1/4W J *	
R1772-73	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1781-82	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1783-84	QRE141J-221Y	C R	220Ω 1/4W J *	
R1785-87	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1789	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1790	QRE141J-393Y	C R	39KΩ 1/4W J *	
R1791-92	QRB049J-103	NET.R	10KΩ	
R1793	QRE141J-562Y	C R	5.6KΩ 1/4W J *	
R1794-95	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1801	QRE141J-221Y	C R	220Ω 1/4W J *	
R1802-03	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1804	QRE141J-681Y	C R	680Ω 1/4W J *	
R1805	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1808-10	QRE141J-333Y	C R	33KΩ 1/4W J *	
R1811	QRE141J-332Y	C R	3.3KΩ 1/4W J *	
R1812	QRE141J-822Y	C R	8.2KΩ 1/4W J *	
R1813	QRE141J-221Y	C R	220Ω 1/4W J *	
R1814	QRE141J-391Y	C R	390Ω 1/4W J *	
R1815	QRE141J-122Y	C R	1.2KΩ 1/4W J *	
R1819	QRE141J-333Y	C R	33KΩ 1/4W J *	
R1820	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1822	QRE141J-102Y	C R	1KΩ 1/4W J *	
R1823	QRE141J-561Y	C R	560Ω 1/4W J *	
R1824	QRE141J-271Y	C R	270Ω 1/4W J *	
R1825	QRE141J-561Y	C R	560Ω 1/4W J *	
R1826	QRE141J-271Y	C R	270Ω 1/4W J *	
R1827	QRE141J-561Y	C R	560Ω 1/4W J *	
R1828	QRE141J-271Y	C R	270Ω 1/4W J *	
R1829	QRE141J-104Y	C R	100KΩ 1/4W J *	
R1868	QRE141J-221Y	C R	220Ω 1/4W J *	
R1902	QRG01GJ-181	OM R	180Ω 1W J *	
R1962	QRG01GJ-121	OM R	120Ω 1W J *	
CAPACITOR				
C1001	QETN1HM-226Z	E CAP.	22pF 50V M *	
C1002	QCB31HK-222Z	C CAP.	2200pF 50V K *	
C1003	QETN1CH-108Z	E CAP.	1000pF 16V M *	
C1004	QETN1HM-106Z	E CAP.	10pF 50V M *	
C1005	QC20120-104Z	C CAP.	0.1pF 25V Z *	
C1006	QETN1CH-107Z	E CAP.	100pF 16V M *	
C1007-09	QC20120-104Z	C CAP.	0.1pF 25V Z *	
C1101	QETN1CH-107Z	E CAP.	100pF 16V M *	
C1102	QC20120-104Z	C CAP.	0.1pF 25V Z *	
C1103	QFV71HJ-104Z	MF CAP.	0.1pF 50V J *	
C1104	QFCL1HJ-823Z	M CAP.	0.082pF 50V J *	
C1105	QETN1HM-474Z	E CAP.	0.47pF 50V M *	
C1107	QCB31HK-103Z	C CAP.	0.01pF 50V K *	
C1109	QETN1CH-477Z	E CAP.	470pF 16V M *	
C1110	QDC31HJ-120Z	C CAP.	12pF 50V J *	
C1111	QETN1HM-106Z	E CAP.	10pF 50V M *	
C1112	QCB31HK-103Z	C CAP.	0.01pF 50V K *	
C1113-15	QFV71HJ-104Z	MF CAP.	0.1pF 50V J *	
C1116	QETN1HM-225Z	E CAP.	2.2pF 50V M *	
C1117	QFCL1HJ-103Z	M CAP.	0.01pF 50V J *	
C1118-20	QETN1HM-105Z	E CAP.	1pF 50V M *	

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C1123	QCS31HJ-680Z	C CAP.	68pF 50V J	*
C1124-25	QETN1HM-106Z	E CAP.	10pF 50V M	*
C1121	QETN1HM-475Z	E CAP.	4.7pF 50V M	*
C1122	QETN1CH-107Z	E CAP.	100pF 16V M	*
C1126	QETN1CH-476Z	E CAP.	47pF 16V M	*
C1127	QCB31HK-103Z	C CAP.	0.01pF 50V K	*
C1128	QDC31HJ-390Z	C CAP.	39pF 50V J	*
C1129	QCS31HJ-680Z	C CAP.	68pF 50V J	*
C1130	QFV71HJ-334Z	MF CAP.	0.33pF 50V J	*
C1161	QETN1CH-476Z	E CAP.	47pF 16V M	*
C1162	QCB31HK-472Z	C CAP.	4700pF 50V K	*
C1164	QDC31HJ-820Z	C CAP.	82pF 50V J	*
C1165-66	QDC31HJ-470Z	C CAP.	47pF 50V J	*
C1167	QDC31HJ-180Z	C CAP.	18pF 50V J	*
C1201	QETN1CH-227Z	E CAP.	220pF 16V M	*
C1202	QETN1CH-107Z	E CAP.	100pF 16V M	*
C1203	QENC1HM-106Z	BP E CAP.	10pF 50V M	*
C1204-05	QENC1HM-105Z	BP E CAP.	1pF 50V M	*
C1206-07	QENC1HM-106Z	BP E CAP.	10pF 50V M	*
C1208	QETN1CH-477Z	E CAP.	470pF 16V M	*
C1209	QETN1CH-476Z	E CAP.	47pF 16V M	*
C1211-12	QETN1CH-107Z	E CAP.	100pF 16V M	*
C1213	QCS31HJ-220Z	C CAP.	22pF 50V J	*
C1215-16	QETN1HM-105Z	E CAP.	1pF 50V M	*
C1217-18	QETN1HM-106Z	E CAP.	10pF 50V M	*
C1221	QETN1CH-107Z	E CAP.	100pF 16V M	*
C1222	QC20120-104Z	C CAP.	0.1pF 25V Z	*
C1223	QETN1CH-477Z	E CAP.	470pF 16V M	*
C1224	QENC1HM-106Z	BP E CAP.	10pF 50V M	*
C1225	QCB31HK-472Z	C CAP.	470pF 50V K	*
C1226	QC20120-104Z	C CAP.	0.1pF 25V Z	*
C1230-31	QETN1HM-106Z	E CAP.	10pF 50V M	*
C1232-33	QCB31HK-103Z	C CAP.	0.01pF 50V K	*
C1401	QETN1HM-105Z	E CAP.	1pF 50V M	*
C1451	QETN1HM-106Z	E CAP.	10pF 50V M	*
C1452	QDC31HJ-820Z	C CAP.	82pF 50V J	*
C1453	QDC31HJ-180Z	C CAP.	18pF 50V J	*
C1454	QDC31HJ-221Z	C CAP.	220pF 50V J	*
C1455	QDC31HJ-470Z	C CAP.	47pF 50V J	*
C1456	QAT7003-300		30pF	*
C1457	QDC31HJ-580Z	C CAP.	5.0pF 50V J	*
C1501	QETN1CH-107Z	E CAP.	100pF 16V M	*
C1502-04	QCB31HK-103Z	C CAP.	0.01pF 50V K	*
C1506	QCB31HK-822Z	C CAP.	8200pF 50V K	*
C1507	QETN1HM-105Z	E CAP.	1pF 50V M	*
C1601-02	QDC31HJ-390Z	C CAP.	2.0pF 50V J	*
C1603-04	QCB31HK-103Z	C CAP.	0.01pF 50V K	*
C1605-06	QETN1HM-106Z	E CAP.	10pF 50V M	*
C1607-08	QC20120-104Z	C CAP.	0.1pF 25V Z	*
C1611-12	QCB31HK-471Z	C CAP.	470pF 50V K	*
C1613	QC20120-104Z	C CAP.	0.1pF 25V Z	*
C1614-15	QETN1HM-106Z	E CAP.	10pF 50V M	*
C1616	QC20120-104Z	C CAP.	0.1pF 25V Z	*
C1617-18	QETN1HM-106Z	E CAP.	10pF 50V M	*
C1619-22	QCB31HK-102Z	C CAP.	1000pF 50V K	*
C1623	QCB31HK-103Z	C CAP.	0.01pF 50V K	*
C1625-26	QCB31HK-102Z	C CAP.	1000pF 50V K	*
C1627-28	QCB31HK-391Z	C CAP.	390pF 50V K	*
C1629-30	QCB31HK-103Z	C CAP.	0.01pF 50V K	*
C1631-32	QCB31HK-152Z	C CAP.	1500pF 50V K	*
C1633-34	QCB31HK-103Z	C CAP.	0.01pF 50V K	*
C1635-36	QETN1HM-105Z	E CAP.	1pF 50V M	*
C1637	QETN1CH-107Z	E CAP.	100pF 16V M	*
C1641	QETN1CH-476Z	E CAP.	47pF 16V M	*
C1643-44	QETN1HM-105Z	E CAP.	1pF 50V M	*
C1689-90	QETN1HM-105Z	E CAP.	1pF 50V M	*
C1691-94	QFV71HJ-224Z	MF CAP.	0.22pF 50V J	*

Δ Symbol No. Part No. Part Name Description Local

## CAPACITOR

C1695	QETN1H-106Z	E CAP.	10μF	50V	M	*
C1696-97	QETN1CH-476Z	E CAP.	47μF	16V	M	*
C1698	QETN1CH-227Z	E CAP.	220μF	16V	M	*
C1701	QETN1CH-108Z	E CAP.	1000μF	16V	M	*
C1702	QC20120-104Z	C CAP.	0.1μF	25V	Z	*
C1703	QETN1H-106Z	E CAP.	10μF	50V	M	*
C1704	QETN1AM-227Z	E CAP.	220μF	10V	M	*
C1705	QC20120-104Z	C CAP.	0.1μF	25V	Z	*
C1706	QFLC1HJ-683Z	M CAP.	0.068μF	50V	J	*
C1707	QETN1H-105Z	E CAP.	1μF	50V	M	*
C1709	QDC31HJ-180Z	C CAP.	180pF	50V	J	*
C1711	QC20120-104Z	C CAP.	0.1μF	25V	Z	*
C1712	QETN1AM-107Z	E CAP.	100μF	10V	M	*
C1713	QC531HJ-220Z	C CAP.	220pF	50V	J	*
C1714	QC831HK-103Z	C CAP.	0.01μF	50V	K	*
C1715	QFLC1HJ-333Z	M CAP.	0.033μF	50V	J	*
C1716	QFV71HJ-104Z	MF CAP.	0.1μF	50V	J	*
C1718	QDC31HJ-180Z	C CAP.	180pF	50V	J	*
C1720	QC831HK-102Z	C CAP.	1000pF	50V	K	*
C1721	QC831HK-472Z	C CAP.	4700pF	50V	K	*
C1723	QENC1H-105Z	BP E CAP.	1μF	50V	M	*
C1761	QETN1CH-228	E CAP.	2200μF	16V	M	*
C1767	QC531HJ-151Z	C CAP.	150pF	50V	J	*
C1781	QC20120-104Z	C CAP.	0.1μF	25V	Z	*
C1807	QETN1CH-476Z	E CAP.	47μF	16V	M	*
C1809	QETN1H-106Z	E CAP.	10μF	50V	M	*
C1811	QETN1H-106Z	E CAP.	10μF	50V	M	*
C1812	QETN1CH-107Z	E CAP.	100μF	16V	M	*
C1813	QETN1H-106Z	E CAP.	10μF	50V	M	*
C1814-15	QC831HK-103Z	C CAP.	0.01μF	50V	K	*
C1816	QETN1H-226Z	E CAP.	22μF	50V	M	*
C1817	QC831HK-103Z	C CAP.	0.01μF	50V	K	*
C1818	QFLC1HJ-223Z	M CAP.	0.022μF	50V	J	*
C1819	QC831HK-221Z	C CAP.	220pF	50V	K	*
C1820-21	QC31HJ-150Z	C CAP.	15pF	50V	J	*
C1822	QFV71HJ-104Z	MF CAP.	0.1μF	50V	J	*
C1823-24	QC831HK-102Z	C CAP.	1000pF	50V	K	*
C1825	QC831HK-221Z	C CAP.	220pF	50V	K	*
C1826	QC20120-104Z	C CAP.	0.1μF	25V	Z	*
C1827	QETN1AM-477Z	E CAP.	470μF	10V	M	*
C1828	QC20120-104Z	C CAP.	0.1μF	25V	Z	*
C1829	QFV71HJ-104Z	MF CAP.	0.1μF	50V	J	*
C1864-65	QETN1H-105Z	E CAP.	1μF	50V	M	*
C1866	QETN1CH-476Z	E CAP.	47μF	16V	M	*
C1904	QETN1H-228	E CAP.	2200μF	50V	M	*
C1906	QETN1CH-107Z	E CAP.	100μF	16V	M	*

## COIL

L1001	QQL01BK-270Z	COIL	27μH	*
L1002-04	QQL01BK-8R2Z	COIL	8.2μH	*
L1005	QQL01BK-5R6Z	COIL	5.6μH	*
L1101-02	QQL01BK-4R7Z	COIL	4.7μH	*
L1103	QQL01BK-330Z	COIL	33μH	*
L1104	QQL01BK-4R7Z	COIL	4.7μH	*
L1161	QQL01BJ-180Z	COIL	18μH	*
L1162	QQL01BJ-220Z	COIL	22μH	*
L1601-02	CELCO05-2R5J7	CHOKO COIL		*
L1603	QQL01BK-100Z	COIL	10μH	*
L1701-02	QQL01BK-4R7Z	COIL	4.7μH	*
L1801	QQL01BK-3R3Z	COIL	3.3μH	*
L1802	QQL01BK-4R7Z	COIL	4.7μH	*

## DIODE

D1101	15S133-72	SI DIODE	*
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Δ Symbol No. Part No. Part Name Description Local

## DIODE

D1102-03	MTZJ5.1B-T2	ZENER DIODE	*
D1104-06	15S133-72	SI DIODE	*
D1201	MTZJ4.7A-T2	ZENER DIODE	*
D1202-03	15S133-72	SI DIODE	*
D1204	MTZJ10A-T2	ZENER DIODE	*
D1205-06	MTZJ15A-T2	ZENER DIODE	*
D1453	15S133-72	SI DIODE	*
D1501-02	15S133-72	SI DIODE	*
D1611-12	MTZJ33A-T2	ZENER DIODE	*
D1701-02	MA700A-T2	SI DIODE	*
D1711	15S133-72	SI DIODE	*
D1714	15S133-72	SI DIODE	*
D1761	15S133-72	SI DIODE	*
D1763	15S133-72	SI DIODE	*
D1765	15S146-72	SI DIODE	*
D1766	15S133-72	SI DIODE	*
D1767-68	MTZJ15A-T2	ZENER DIODE	*
D1801-02	15S133-72	SI DIODE	*
D1862-63	MTZJ15B-T2	ZENER DIODE	*
D1901	R08.2E5/B2-T2	ZENER DIODE	*
D1964	MTZJ5.1B-T2	ZENER DIODE	*

## TRANSISTOR

Q1101	25C1015/YG/-T	SI TRANSISTOR	*
Q1102	25C1815/YG/-T	SI TRANSISTOR	*
Q1103	DTC124ESA-T	DIGI. TRANSISTOR	*
Q1163	25C1815/YG/-T	SI TRANSISTOR	*
Q1201-02	25C1815/YG/-T	SI TRANSISTOR	*
Q1203	25C1015/YG/-T	SI TRANSISTOR	*
Q1204-05	DTC323TS-T	DIGI. TRANSISTOR	*
Q1206	25C1815/YG/-T	SI TRANSISTOR	*
Q1207	25C1015/YG/-T	SI TRANSISTOR	*
Q1208-09	25C1815/YG/-T	SI TRANSISTOR	*
Q1210-11	DTC323TS-T	DIGI. TRANSISTOR	*
Q1212	25C1815/YG/-T	SI TRANSISTOR	*
Q1214-15	DTC323TS-T	DIGI. TRANSISTOR	*
Q1451	DTC124ES-T	DIGI. TRANSISTOR	*
Q1452	25C1815/YG/-T	SI TRANSISTOR	*
Q1501	25C1815/YG/-T	SI TRANSISTOR	*
Q1502	25C1015/YG/-T	SI TRANSISTOR	*
Q1701-02	25C1815/YG/-T	SI TRANSISTOR	*
Q1703	DTC144ESA-T	DIGI. TRANSISTOR	*
Q1761	DTC144ES-T	DIGI. TRANSISTOR	*
Q1762	25C1015/YG/-T	SI TRANSISTOR	*
Q1763-64	DTC323TS-T	DIGI. TRANSISTOR	*
Q1801	25C1015/YG/-T	SI TRANSISTOR	*
Q1802	DTC124ES-T	DIGI. TRANSISTOR	*
Q1806-07	25C1815/YG/-T	SI TRANSISTOR	*

## IC

IC1101	T81227AN	I.C. (DIGI-OTHER)	*
IC1201	TEA6416	I.C. (MONO-ANA)	*
IC1451	MC145388CP	I.C. (DIGI-MOS)	*
IC1601	MSP34100-PP-F7	I.C. (DIGI-OTHER)	*
IC1602	BA4558	I.C. (MONO-ANA)	*
IC1611	TOA7263H	I.C. (MONO-ANA)	*
IC1701	H37271MF-252SP	I.C.	*
IC1702	L78LROSE-MA	I.C. (MONO-ANA)	*
IC1703	AT24C1629WT4EN	I.C.	(SERVICE)
IC1781	JLC15628N	I.C. (DIGI-MOS)	*
IC1801	TC40538P/N	I.C.	*
IC1802	CF70206	I.C. (DIGI-MOS)	*
IC1803	CF72417	I.C. (DIGI-MOS)	*

Δ Symbol No. Part No. Part Name Description Local

## OTHERS

CN1001	QGF1216C1-25	FFC CONNECTOR	*
CN1009	QGB2004P2-25	MOF PLUG	*
EF1601-02	CE42142-103Z	EMI FILTER	*
K1001-04	CE41433-001Z	BEADS CORE	*
TU1001	CEEK481-804	TUNER	*
X1101	QAX0305-001Z	CRYSTAL	*
X1601	CE42546-001Z	CRYSTAL	*
X1701	CST8.00MTW	CER. RESONATOR	*

----- IF MODULE PMB(As follows) -----  
----- AUTO ASPECT MODULE PMB(As follows) -----AUTO ASPECT MODULE P.W. BOARD ASS'Y  
(SMC-W001A(U))

Δ Symbol No.	Part No.	Part Name	Description	Local
M0001	SMC-W001A(U)	AUTO ASPECT MODULE PMB		

## IF MODULE P.W. BOARD ASS'Y (SJF0F021A-U2)

Δ Symbol No.	Part No.	Part Name	Description	Local
M01003	SJF0F021A-U2	IF MODULE PMB		

POWER / DEF P.W. BOARD ASS'Y  
(SJF-2023A-U2)

Refer to PARTS LIST in page 43 for this P.W. board.

## CRT SOCKET P.W. BOARD ASS'Y (SJF-3022A-U2)

Refer to PARTS LIST in page 45 for this P.W. board.

FRONT CONTROL P.W. BOARD ASS'Y  
(SJF-8023A-U2)

Refer to PARTS LIST in page 46 for this P.W. board.

AV TERMINAL P.W. BOARD ASS'Y  
(SJF0J022A-U2)

Refer to PARTS LIST in page 47 for this P.W. board.

A line drawing of a hand saw. Label 1 points to the blade, and label 2 points to the handle.



AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

## PACKING PARTS LIST

### AV-28WT4EK

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C794-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
△ 11	LCT0406-001A-U	INST BOOK		*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
15	AEM1039-033-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

### AV-28WT4EKS

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C794-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
△ 11	LCT0406-001A-U	INST BOOK		*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
15	AEM1039-034-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

### AV-28WT4EN

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C795-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
9	28WT4ENS-HSAE	S. DIAGRAM	ONLY ITALY(SERVICE)	*
△ 11	LCT0407-001A-U	INST BOOK	For ENG/GER/FRA/NED/ITA/ESP	*
△ 12	LCT0408-001A-U	INST BOOK	For FIN/NOR/DEN/SWE/POR	*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
14	AEM1045-001-E	X RAY CARD		*
15	AEM1039-035-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

### AV-28WT4ENS

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C795-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
9	28WT4ENS-HSAE	S. DIAGRAM	ONLY ITALY(SERVICE)	*
△ 11	LCT0407-001A-U	INST BOOK	For ENG/GER/FRA/NED/ITA/ESP	*
△ 12	LCT0408-001A-U	INST BOOK	For FIN/NOR/DEN/SWE/POR	*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
14	AEM1045-001-E	X RAY CARD		*
15	AEM1039-036-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

# AV-28WT4EK AV-28WT4EKS AV-28WT4EN AV-28WT4ENS

## STANDARD CIRCUIT DIAGRAM

### NOTE ON USING CIRCUIT DIAGRAMS

#### 1. SAFETY

The components identified by the  $\Delta$  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

#### 2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1) Input signal :PAL Colour bar signal
- (2) Setting positions of each knob/button and variable resistor :Original setting position when shipped
- (3) Internal resistance of tester :DC 20k  $\Omega$ /V
- (4) Oscilloscope sweeping time :H  $\Rightarrow$  20 $\mu$ S/div  
:V  $\Rightarrow$  5mS/div  
:Others  $\Rightarrow$  Sweeping time is specified
- (5) Voltage values :All DC voltage values

\* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

#### 3. INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board :R1209—R209

#### 4. INDICATIONS ON THE CIRCUIT DIAGRAM

##### (1) Resistors

###### ● Resistance value

- No unit :[ $\Omega$ ]
- K :[K $\Omega$ ]
- M :[M $\Omega$ ]

###### ● Rated allowable power

- No indication :1/4[W]
- Others :As specified

###### ● Type

- No indication :Carbon resistor
- OMR :Oxide metal film resistor
- MFR :Metal film resistor
- MPR :Metal plate resistor
- UNFR :Uninflamable resistor
- FR :Fusible resistor

\* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

##### (2) Capacitors

###### ● Capacitance value

- 1 or higher :[pF]
- less than 1 :[ $\mu$ F]

###### ● Withstand voltage

- No indication :DC50[V]
- AC indicated :AC withstand voltage [V]
- Others :DC withstand voltage [V]

\* Electrolytic Capacitors

47/50[Example]:Capacitance value [ $\mu$ F]/withstand voltage[V]

###### ● Type

- No indication :Ceramic capacitor
- MY :Mylar capacitor
- MM :Metalized mylar capacitor
- PP :Polypropylene capacitor
- MPP :Metalized polypropylene capacitor
- MF :Metalized film capacitor
- TF :Thin film capacitor
- BP :Bipolar electrolytic capacitor
- TAN :Tantalum capacitor

###### (3) Coils

- No unit :[ $\mu$ H]
- Others :As specified

###### (4) Power Supply

- :B1
- :B2
- :9V
- :5V

\* Respective voltage values are indicated.

###### (5) Test point

- :Test point
- :Only test point display

###### (6) Connecting method

- :Connector
- :Wrapping or soldering
- :Receptacle

###### (7) Ground symbol

- $\perp$  :LIVE side ground
- $\downarrow$  :ISOLATED(NEUTRAL) side ground
- $\equiv$  :EARTH ground
- $\nabla$  :DIGITAL ground

### 5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : ( $\perp$ ) side GND and the ISOLATED(NEUTRAL) : ( $\downarrow$ ) side GND. Therefore, care must be taken for the following points.

- (1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
- (2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus ( oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

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## SEMICONDUCTOR SHAPES

### TRANSISTOR

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				CHIP TR 

### IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW

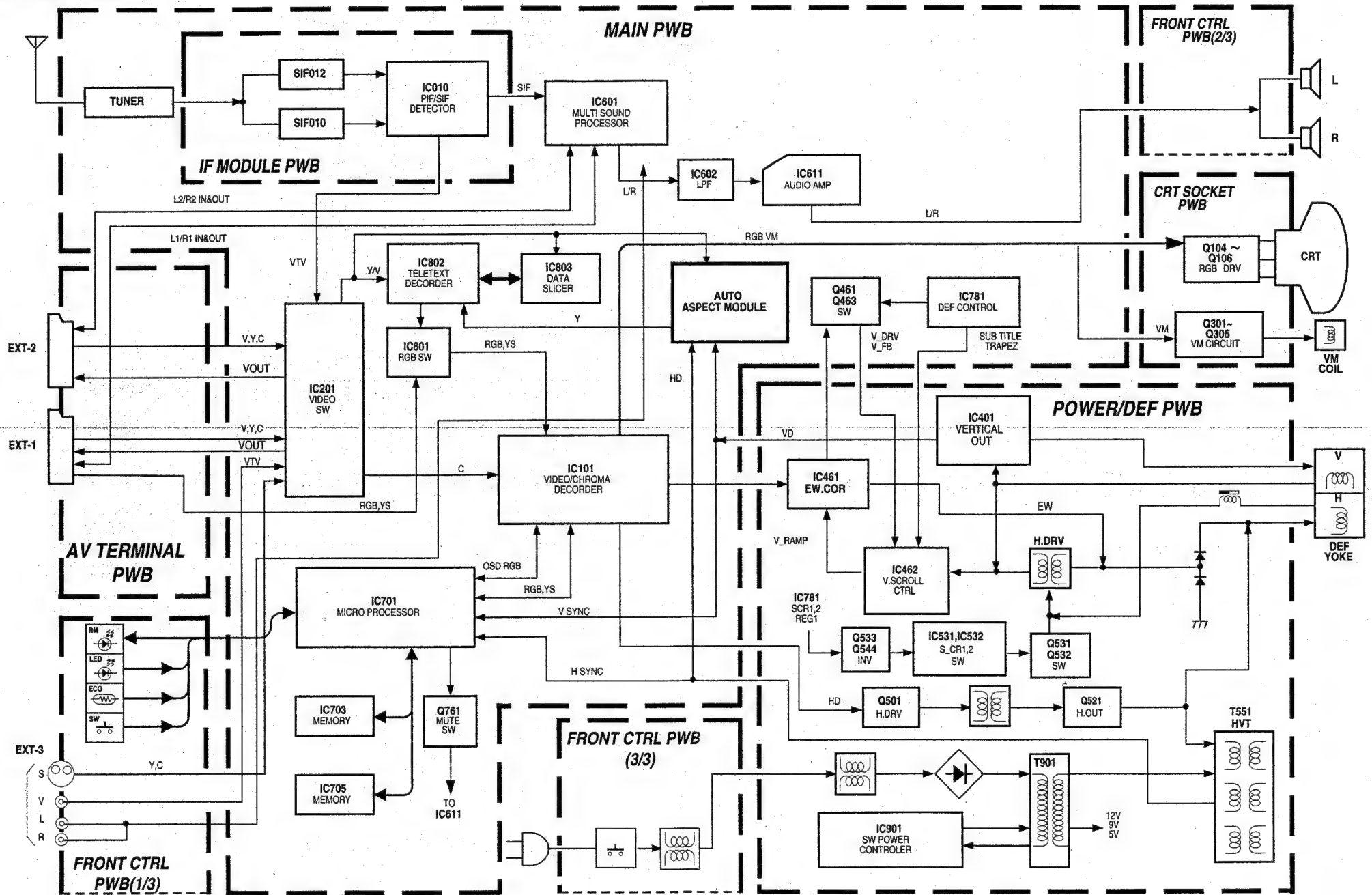
### CHIP IC

TOP VIEW	

AV-28WT4LR  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

# BLOCK DIAGRAM



No.51547

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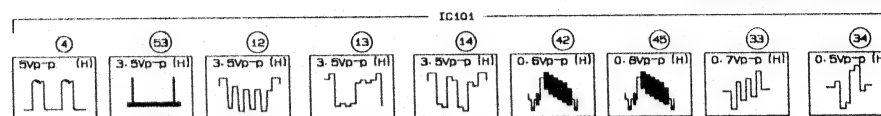
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AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

AV-28W  
AV-28W  
AV-28W  
AV-28W

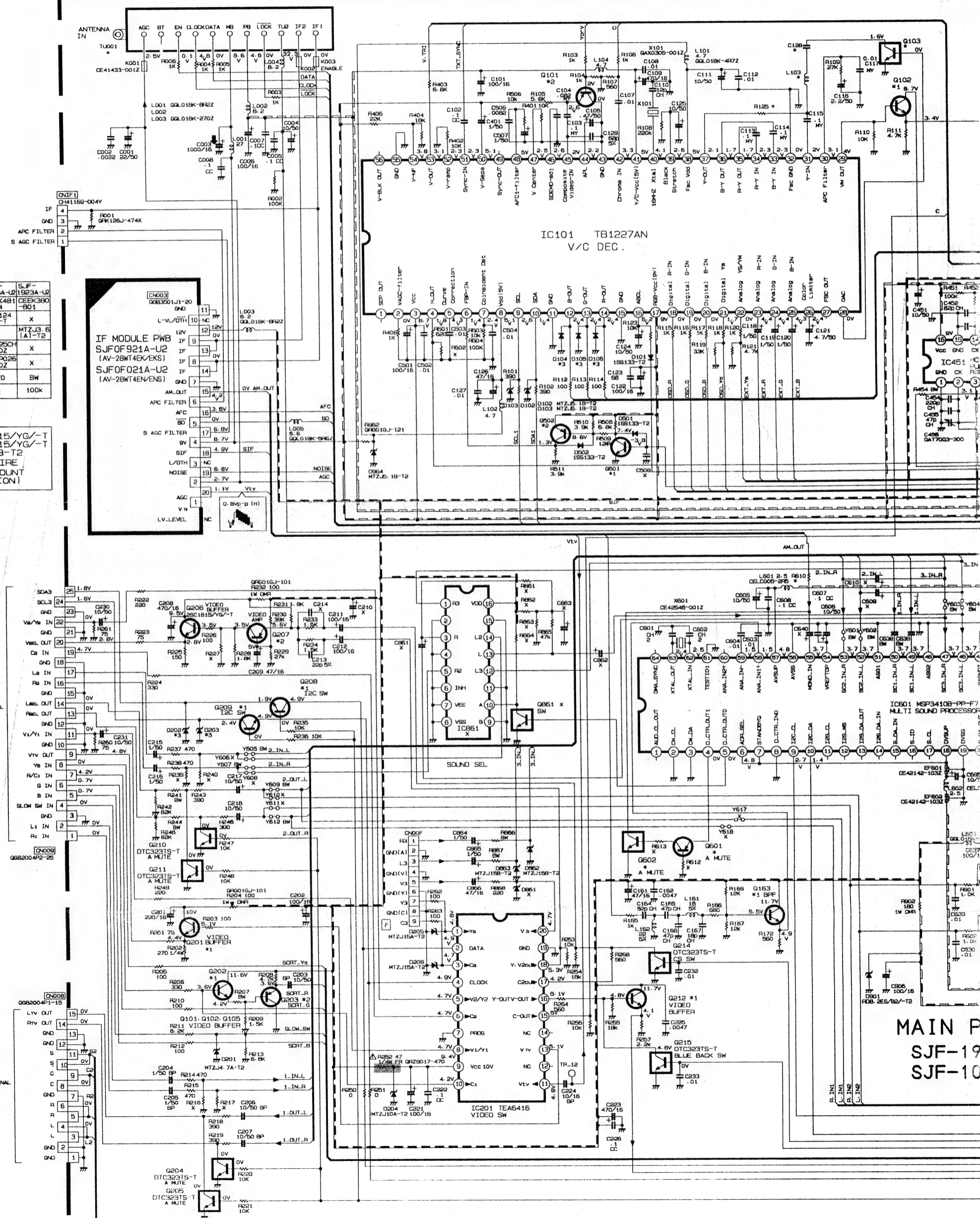
# CIRCUIT DIAGRAMS

## MAIN PWB CIRCUIT DIAGRAM



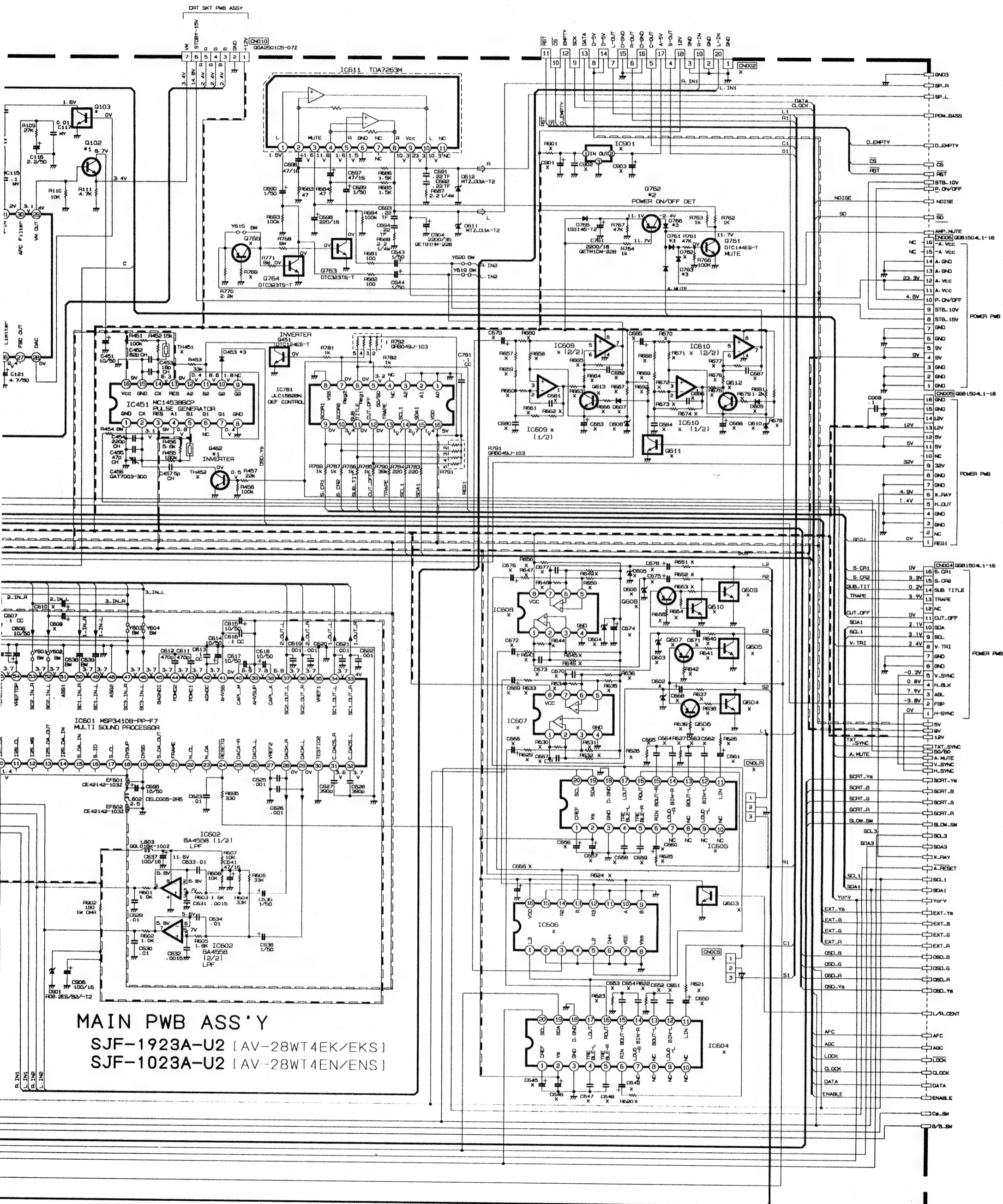
	SJF-1023A-U2	SJF-1023A-U2
TU001	CEK481-B04	CEK390-B01
Q103	DTC124-ESA-T	X
D703	X	MTZJ3.6 (A1)-T2
C128	QCT250K-390Z	X
L103	CELP026-330Z	X
R125	470	BW
R748	X	100k

\*1: 2SC1815/YG/-T  
\*2: 2SA1015/YG/-T  
\*3: 1SS133-T2  
BW: BUS WIRE  
X: NON MOUNT (OPTION)



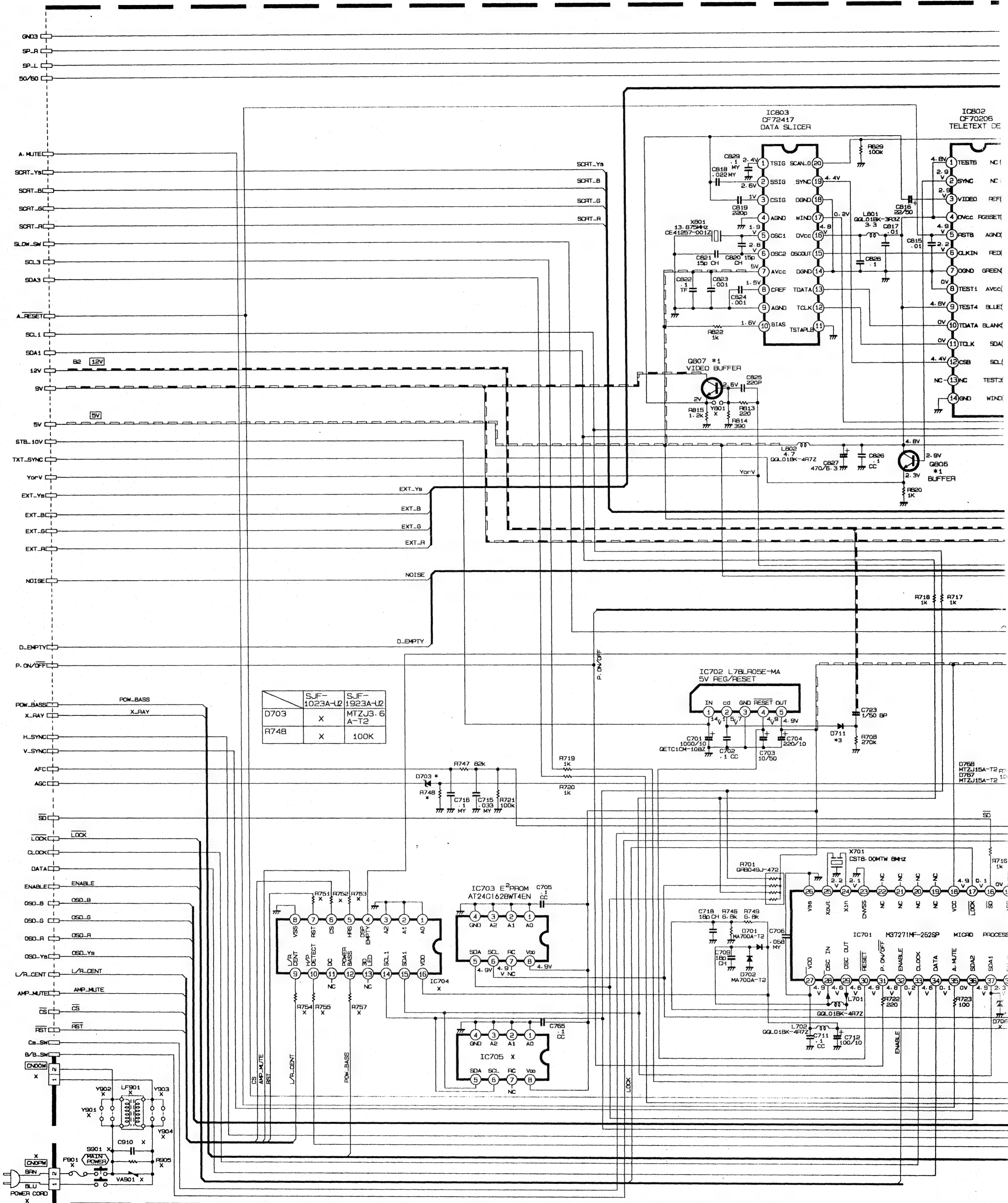
MAIN P  
SJF-19  
SJF-10

AV-28WT4EK  
 AV-28WT4EKS  
 AV-28WT4EN  
 AV-28WT4ENS

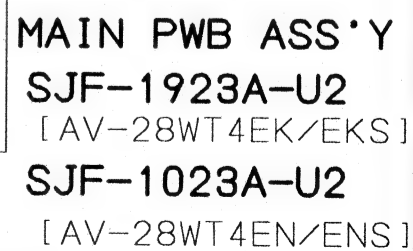


AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

AV-:  
AV-:  
AV-:  
AV-:



AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS



AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

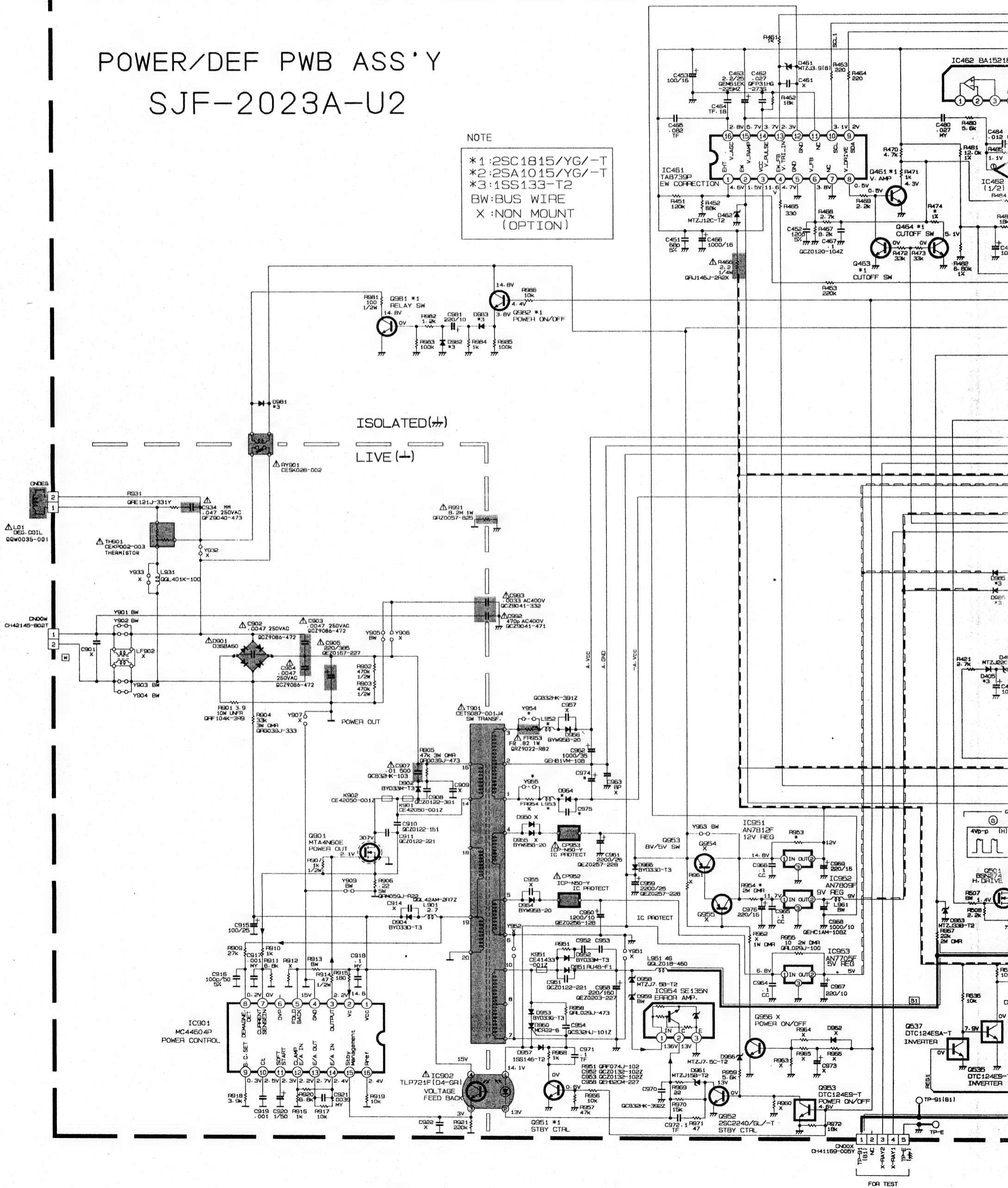
AV-28WT  
AV-28WT  
AV-28WT  
AV-28WT

# POWER/DEF PWB CIRCUIT DIAGRAM

POWER/DEF PWB ASS'Y  
SJF-2023A-U2

## NOTE

\*1:2SC1815/YG/-T  
\*2:2SA1015/YG/-T  
\*3:1SS133-T2  
BW:BUS WIRE  
X:NON MOUNT  
(OPTION)



3333



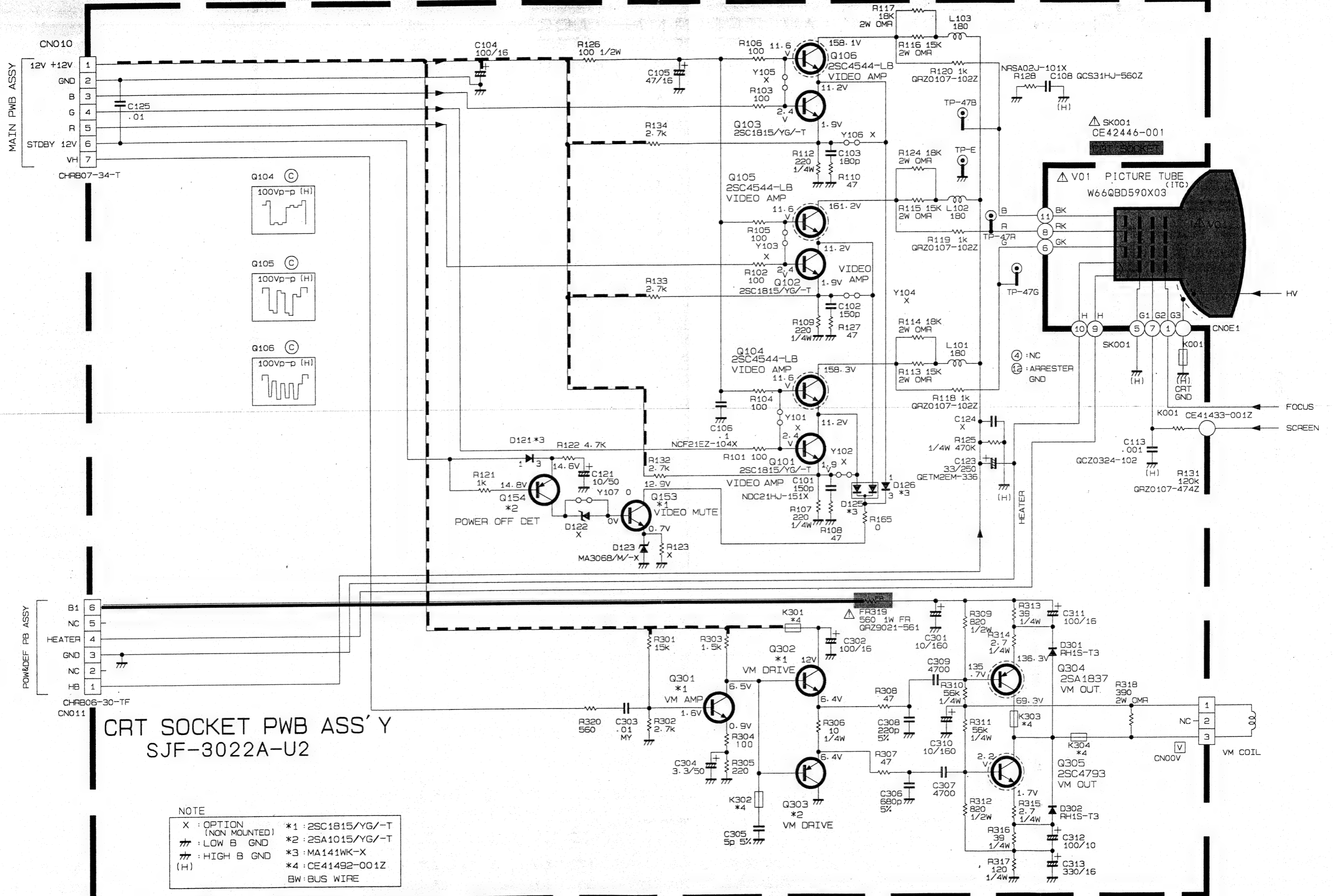
DIFFERENCE LIST (*PARTS			
* /	SJF	OF021A-12	OF921A-12
	SF010	GAX0316 -001	GAX0315 -001
SF012	CE42606 -701	CE42606 -701	
CF 100	TPH S. 5KW	TPSH-6 MB	
L103	NOL011K -100X	NOL011K -8R2X	
L104	NOL011K -5R6X	NOL011K -8R2X	
R109	270	150	
R112	100	150	
R113	120	270	
R114	470	330	
R115	2.2k	X	

\*1: DTC144ES-T  
\*2: DTA144TSA-T  
\*3: MA152WK-X  
X : OPTION(NON MOUNT)  
BW: BUS WIRE

AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

# CRT SOCKET PWB CIRCUIT DIAGRAM

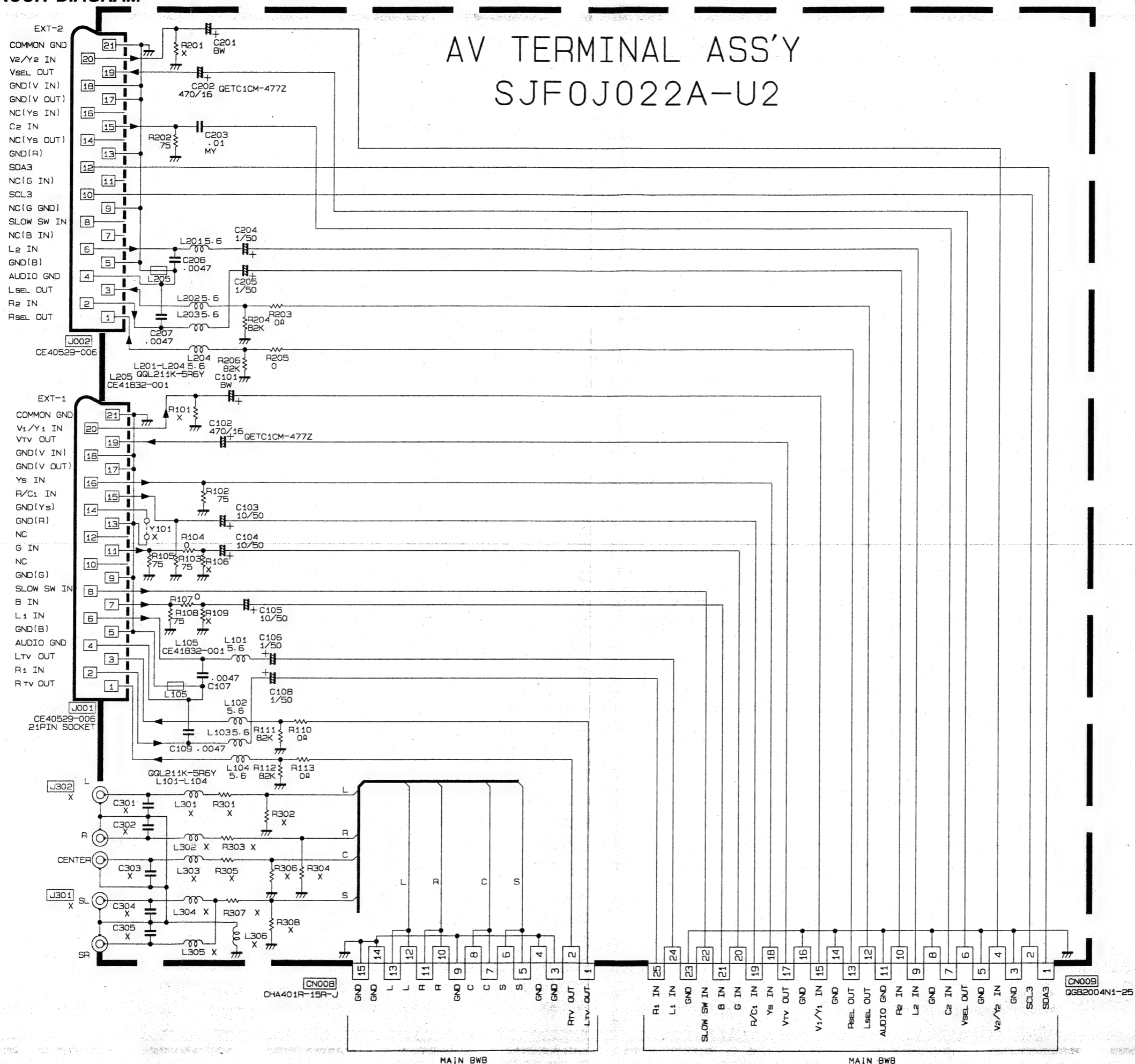


CRT SOCKET PWB ASS'Y  
SJF-3022A-U2

# AV TERMINAL PWB CIRCUIT DIAGRAM

AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

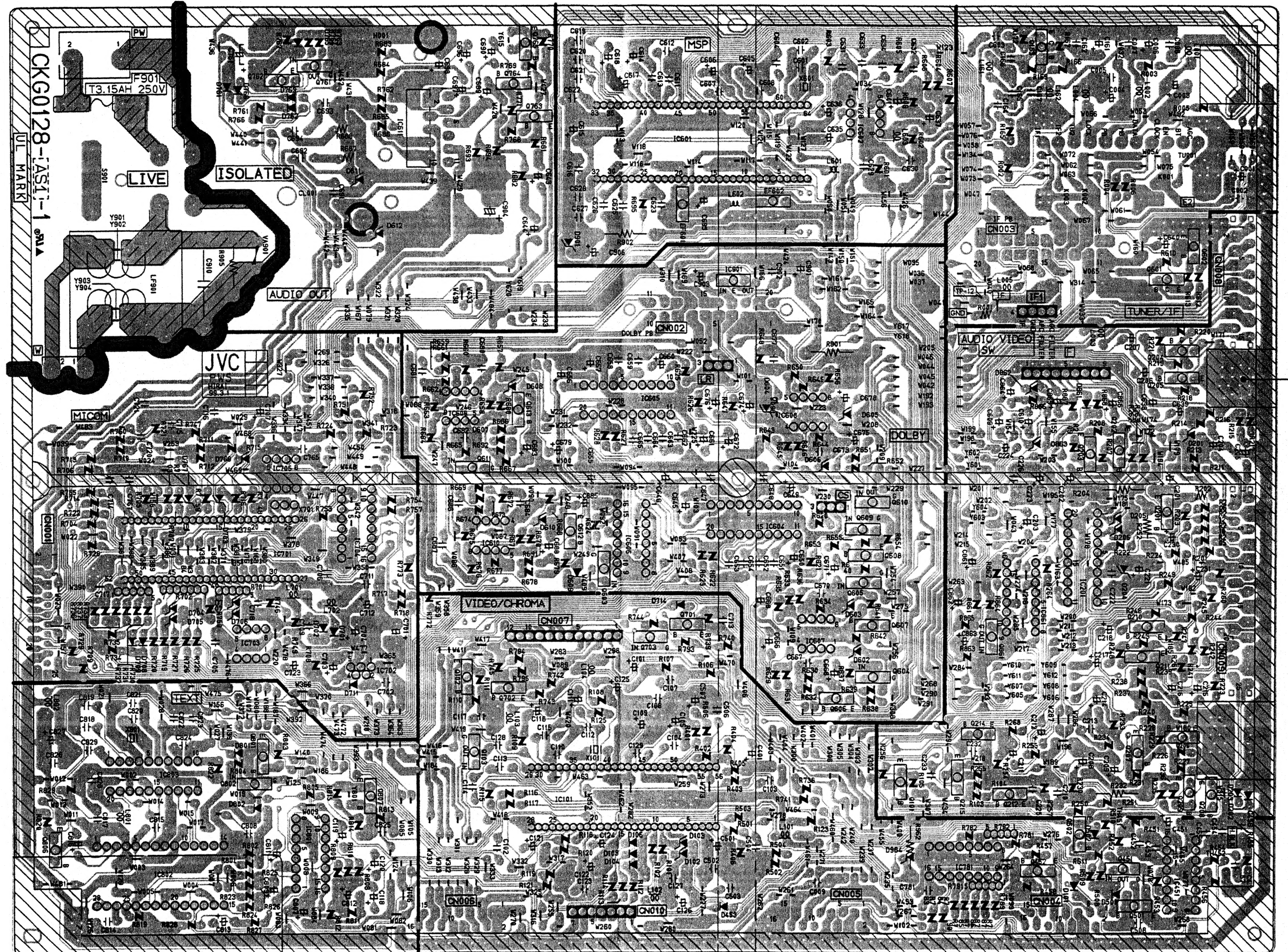
AV TERMINAL ASS'Y  
SJF0J022A-U2



AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

AV-28WT4EK  
AV-28WT4EKS  
AV-28WT4EN  
AV-28WT4ENS

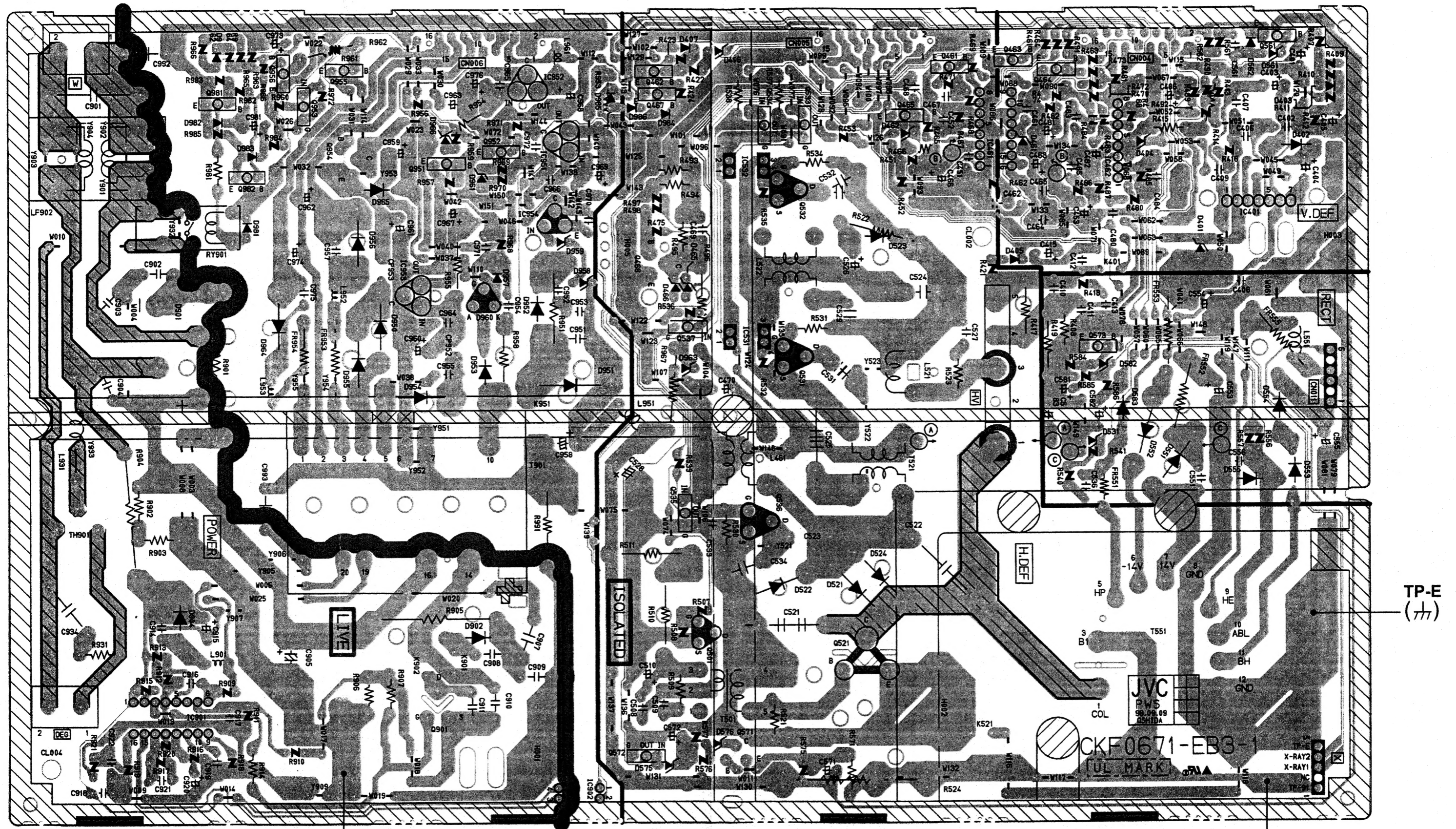
# PATTERN DIAGRAMS MAIN PWB PATTERN



FRONT

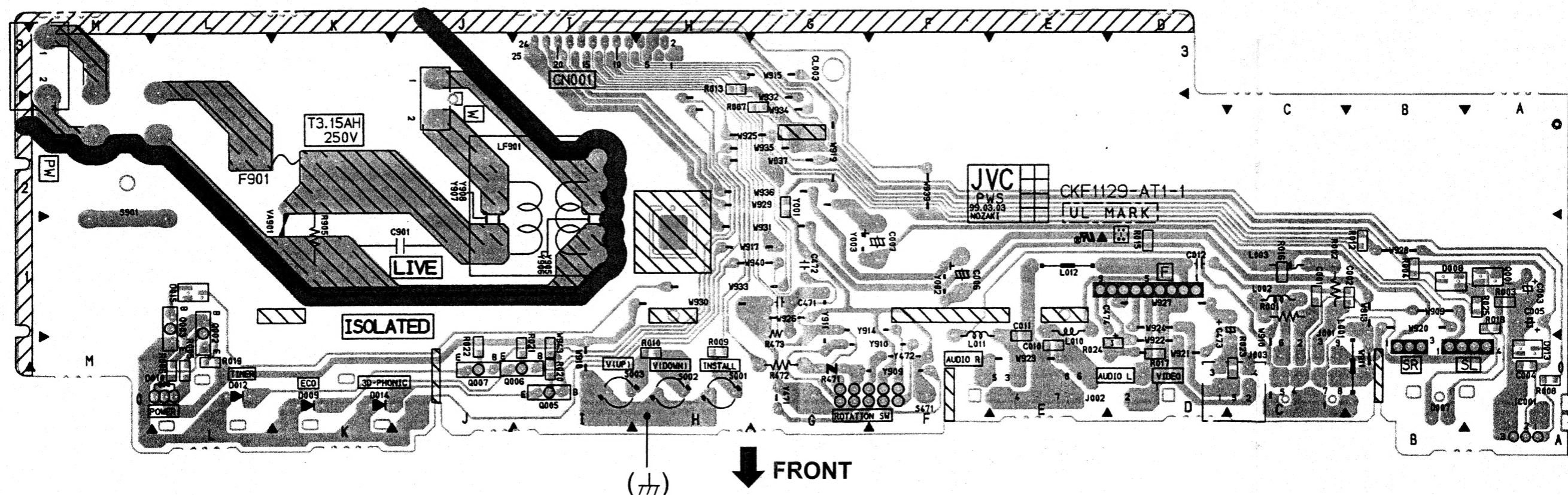
(17)

 FRONT



**TP-91(B1)**

AV-28WT4EK	AV-28WT4EK
AV-28WT4EKS	AV-28WT4EKS
AV-28WT4EN	AV-28WT4EN
AV-28WT4ENS	AV-28WT4ENS



No.51547

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